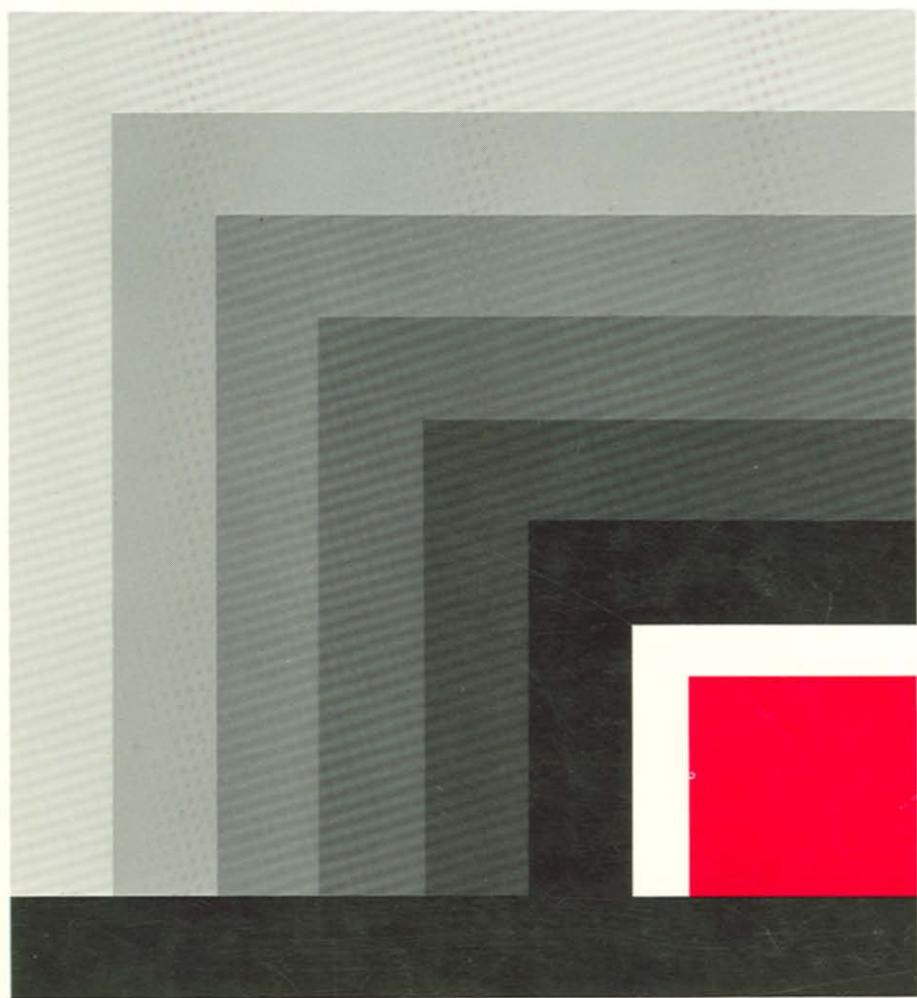


UNDERGRADUATE BULLETIN



UNIVERSITY OF WISCONSIN-STOUT

1984-1985

Undergraduate Bulletin

**Catalog of Courses
1984-85**

**University of Wisconsin-Stout
Menomonie, Wisconsin 54751**

**AN EQUAL OPPORTUNITY AND AFFIRMATIVE
ACTION UNIVERSITY**

For information concerning the University or any of its programs, write to: Director of High School Relations, University of Wisconsin-Stout, Menomonie, WI 54751. Telephone (715) 232-1232.

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GENERAL INFORMATION

TO NEW STUDENTS

At least part of the information you need in reaching your decision to attend Stout can be found on the following pages. The catalog places primary emphasis on the major programs offered by the University and descriptions of the courses within those programs. Fee, financial aid and housing information is also explained. Other students have found campus visits and discussions with staff members extremely helpful in reaching their decision. If possible, write or call for an appointment to visit the campus. The number is (715) 232-1232.

THE UNIVERSITY

Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1893 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an

education broader than that offered by the traditional curriculum. Since its founding, Stout has gained a position of national leadership in industrial, vocational, and home economics education. Its programs in those fields are among the largest in the world. Although Stout is a career-oriented university, it has had the foresight to make the humanities and social sciences key parts of the total educational program.

THE FACULTY

On most campuses, expertise in teaching is no longer the concern only of the faculty and administration—students are equally concerned. Because Stout has specialized in certain areas, a staff comprised of individuals nationally recognized in their fields has been developed. All classes are taught by the faculty with the exception of several laboratory courses. The student-teacher ratio is about 20-1 overall. Of a staff of 450, a high percentage holds doctorates while others hold special degrees in their fields. One of the fine traditions at Stout has been the faculty's commitment to provide extra help to students.

FACILITIES

The University's instructional programs are supported by some of the most modern and well-equipped facilities to be found anywhere. To keep pace with growing enrollment and the increased needs of education, more than \$15 million in classroom, laboratory and library construction has been completed recently. Sophisticated audio-visual and computer centers serve the entire campus. An open laboratory policy encourages out-of-class study, research and experimentation. The 120-acre campus is adjacent to the central business district and Lake Menomin. The University's library is a completely integrated research collection of audiovisual software and print materials. A complete hard copy collection of ERIC is available and is complemented by computerized on-line search capability. Outstanding specialized collections in guidance, industrial education, home economics, vocational rehabilitation, vocational education, and hotel and restaurant management are featured.

STUDENTS

In terms of enrollment, Stout is not a local or state school. Its 7,500 students come from every state in the nation and 25 foreign countries. Students have a major voice in the affairs of the University and sit on important University committees. Besides regular and informal meetings with students, the University's Chancellor has "an open door policy." More than \$250,000 in student activity funds are administered by student government. There are more than 100 student clubs and organizations on campus, including national fraternities and sororities.

THE COMMUNITY

For many reasons, students like Menomonie and the surrounding area. Lakes, rivers and hills enhance the countryside. The area is in the heart of Wisconsin's vacationland with every winter and summer sport near at hand. Major entertainment and cultural attractions are available on campus and in nearby (60 miles) Minneapolis-St. Paul. Menomonie's population is 12,000.

ADMISSIONS

Application for admission forms may be obtained by writing the Director of Admissions at Stout or from any Wisconsin or Minnesota high school guidance office. Although there are general guidelines, each applicant is considered on an individual basis.

UW SYSTEM ADMISSION POLICY

Freshman applicants must satisfy the following minimum requirements to be considered for admission:

1. Graduation from a recognized high school or equivalent.
 - (A) A recognized high school is one which either, (1) is accredited by a regional accrediting association or state university or, (2) is recognized or accredited by a state department of public instruction or its equivalent.
 - (B) An applicant who has not graduated from a recognized high school must provide evidence of satisfactory completion of the requirements for a high school equivalency certificate or a diploma from a recognized high school, school system or state department of public instruction based on the General Education Diploma (GED) examination, the Wisconsin high school equivalency examination or other established criteria.
2. A minimum of nine high school credits from the following fields: English, speech, foreign language, natural science, social science, mathematics. (A high school credit represents a norm of five class periods per week in one field of study for a school year of 36 weeks.)
Students admitted on the basis of an equivalency certificate or diploma or GED examination shall be considered to have fulfilled these minimum requirements.
3. Evidence that the applicant is prepared to do satisfactory work.
 - (A) Normally this evidence will consist of the student's rank in class.
 - (B) Any unit may require test scores of all or some applicants as additional evidence but they may not deny admission to any student based on test scores alone.

- (C) Students lacking rank-in-class or test score qualifications may be considered if, on the basis of other factors, they appear to have a reasonable probability of success. Particular consideration in admission will be given to applicants who have been out of school for two or more years, service veterans with at least 180 days of active duty and to students who have been disadvantaged as a result of substandard education, family income level or ethnic background.
- 4. Applicants who do not qualify according to the above requirements may appeal for special consideration through the Director of Admissions.
- 5. Requirements for out-of-state students will be the same as those for resident students except that a unit may adopt special requirements for foreign applicants. If the number of qualified out-of-state students exceeds the ability of the unit to accommodate them, the unit shall determine the criteria for selection from among qualified applicants.

NEW FRESHMAN

High school students should apply for admission early in their senior year. Applications are accepted by the University as early as Oct. 1. There is no deadline for applications. However, because of enrollment limitations, a student who applies early may gain some advantage in admissions and in securing housing and financial aid. High school graduates who rank in the upper three-fourths of their class are admitted in good standing. High school graduates who rank in the lower one-quarter and have an ACT Standard Composite score of 17 or more also are admitted in good standing. (SAT or CQT may be substituted for ACT.) High school graduates who do not meet those requirements may be considered for admission and are encouraged to carry a lighter load and participate in special programs provided for them. The Director of Admissions has the authority to accept any person who is not a high school graduate if factors indicate an ability to profit from a university education.

Deferred Admission Students who desire to work for a few years or enter military service may process an application for admission now to gain contact with Stout in the event an opportunity for part-time study arises elsewhere. This will enable the student to check on the transferability of course work and at the same time, keep posted on pertinent changes at Stout.

SENIOR CITIZENS

Wisconsin citizens aged 62 and over may audit all classes at Stout free of charge if space is available. Others who do not wish to receive credit for courses taken may also audit courses by paying half of the normal fee.

TRANSFER STUDENTS

Transfer students should apply for admission and forward an official transcript early in the last semester at their present college. Tentative admission can be given after a preliminary evaluation of transfer credits. An early application for admission offers the opportunity for pre-registration for classes and financial aid clearance. Enrollment limitations may result in nonacceptance. Therefore, early planning and applications are important.

Two-Year UW Centers and Accredited Colleges and Universities Normally, students with an overall "C" average at their previous institution(s) can be admitted. Students with less than a "C" average can be admitted under certain circumstances, but should consult with the Director of Admissions for an evaluation. The University of Wisconsin System policy allows a maximum of 72-semester credits to transfer from two-year centers.

UW CENTER SYSTEM TRANSFERS

A booklet designed to assist UW Center System students who are interested in transferring into one of Stout's specialized programs is now available through Center System's counselors or Stout's Admission office. The booklet matches courses offered by the Center System with the individualized requirements of Stout's programs. By following program plans in the booklet, students can earn credits at any Center System campus and be certain those credits meet specific program requirements at Stout. The booklet is the result of a cooperative effort by Stout and Center System officials to compare courses offered by the Center System with requirements at Stout. Usually, students can take at least one year of study at a Center System campus—in some cases two—before transferring to Stout.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION INSTITUTES

College Parallel Program Credits for the first two years of college work satisfactorily completed in college parallel programs will normally be accepted at Stout. (In Wisconsin, these are VTAE programs at Madison, Milwaukee and Rhinelander.) Generally, a student may transfer up to one-half the credits required for a degree at Stout, but not more than 72. A student transferring to Stout is expected to complete all program requirements.

Non-College Parallel Program Stout will accept selected credits outside the college parallel program as long as a direct linkage can be shown between those courses and the student's proposed major area of study at Stout. General education or liberal arts courses taken outside the college parallel program will not usually transfer. However, the student will be given every opportunity to earn credit by examination in those areas. A student transferring from a non-parallel program must complete an application for admission and forward official transcripts from the last institution attended.

ADULT SPECIAL STUDENTS OR VETERANS

Adults may be admitted even though they have not completed high school if scholastic ability is indicated through tests and interviews conducted by the University. Those who expect to enter as adult special students should arrange for an interview with the Director of Admissions well in advance of the desired entrance date. There is a special Veteran's office affiliated with the Registrar's office to assist the entering veteran.

INTERNATIONAL STUDENTS

It is recommended that all potential international students have better than average academic records.

At the Freshman Level (first year) Students must send documentation consisting of certified copies of certificates, diplomas or degrees earned. These official records must be equal to U.S. high school (secondary education) graduation for consideration.

At the Transfer Level Post-secondary records must be certified correct by the former institution attended. All certified records must show courses taken and grades earned. No advance credit will be given unless the record shows evidence of satisfactory completion of the course being considered. Any alterations or irregularities in these records will result in the student being denied admission.

Initial transfer of credits is provisional and must be validated by satisfactory work in residence.

Additional records presented after the student has enrolled will not be considered for transfer.

English Language Requirement The Test of English as a Foreign Language (TOEFL) is required of students from all non-English speaking countries. The minimum score required is 500. For information on where and when to take the TOEFL, write to:

Test of English as a Foreign Language
Box 899
Princeton, New Jersey, USA 08540

Finances All international students must show evidence that they have adequate finances to undertake a degree program at Stout. As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees, must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants to whom this applies will be informed upon receipt of application. Questions about this policy may be addressed to the Business office or to the Office of International Programs.

SPECIAL PROGRAMS

Stout offers students opportunities to earn credits outside the classroom as well as in. Certain programs allow students to earn credit by examination. Field Experience and Independent Study should be investigated by students for the purpose of earning credit. These special programs and others are outlined below.

COOPERATIVE EDUCATION PROGRAM

Cooperative Education is a new option within the curriculum at Stout. Currently, students in degree programs in the School of Industry and Technology may be eligible to enroll. Students with degree programs in the School of Home Economics may be able to enroll in Co-op beginning fall of 1984 and Liberal Studies students in the fall of 1985. Co-op is a business/industry experience related to a student's academic program differing from field experience and internship as follows: (1) Alternating or parallel periods of classroom study and employment are possible, (2) A formal agreement is developed cooperatively by the instructor, student and employer, (3) Site experience is supervised, evaluated and paid, (4) Co-op entails recurring (more than one) work/study periods, each one building and expanding on the previous, (5) A more intensive involvement with business/industry is cultivated: Co-op is a "partnership" among the school, student and employer. Information on Co-op and the availability of Co-op job sites can be obtained from the Office of Cooperative Education or the Dean's office housing the degree program.

INDEPENDENT STUDIES PROGRAM

Students at Stout may design a limited number of special topic courses for credit through the University's independent study program. This program is open to students during any enrollment or course-add period. Students may initiate the process by obtaining an application for independent study from the office of the assistant dean of the school in which this independent study is to be offered. The student then completes the form by identifying the course objectives, methods and evaluation process to be used and submits this to an independent study coordinator for further processing for approval. Credits are awarded on the basis of expending a minimum of 48 hours of effort for each credit and an evaluation of the extent to which the stated objectives were met. Independent study topics are ordinarily those not offered through existing courses. Approved independent study courses are completed by the student in consultation with the assigned independent study coordinator who provides counsel and aid to the student in achieving the approved desired learning objectives.

Students should consult in advance with their program director to find out whether the proposed independent study may be used in the degree program.

TECHNICAL SERVICE SCHOOLS

Many manufacturers offer special purpose technical courses. Some of them are suitable for college credit. See the course description for details.

FIELD EXPERIENCE PROGRAM

Students are encouraged to obtain part of their college education off the Menomonie campus through the Field Experience program. This program allows students to receive academic credit for learning related to their major or minor, while employed in an approved off-campus field position. Most students use their summers to enroll in this program, but part-time work is usually permissible. Field experience information can be obtained from the Dean's office in which the student's major is housed.

OFFICE OF CONTINUING EDUCATION

Stout offers one of the largest programs in the state in evening and Saturday morning extension classes. Credits may be earned through enrollment in these off-campus courses. They are accepted to Stout on the same basis as they are to other colleges and universities. Registration for these courses is completed at the first class meeting by a representative of the University or by the instructor.

CREDIT BY EXAMINATION

Stout has several procedures which permit students to demonstrate their competence through externally and internally developed examinations. External examinations include the College Level Examination Program (CLEP) and the Advanced Placement program (AP). For further information or external examinations, ask at the University Counseling Center. Internal credit by examination is possible by "Test Out" procedures developed by various Stout departments. For further information on internal examinations, ask at the appropriate School or department office. Student testing out of a course by external or internal examinations will be charged a testing fee.

INDUSTRIAL WORK EXPERIENCE

A maximum of 24-semester hours of technical credit may be earned through examination by those students who have completed three years of skilled occupational experiences beyond the learning level of a trade. Students with less than this amount (seven years) of experience may request examination in specific technical courses upon presentation of evidence of appropriate work experience in that area. Students desiring credit for skilled occupational experiences should present evidence of the required amount of work to the

program director of Vocational Education (Trade and Industry) shortly after registration to allow special program consideration.

BUSINESS AND INDUSTRY INTERNSHIPS

Business and industry internships are available through the School which provides the major. Some internships are of the summer type and only three months, while others are at least six-months long. The minimum requirements are usually stated as junior or senior standing, candidates are company screened and the position is para-professional. Contact any School Dean's office for details about the program in that School.

THE AMERICAN COLLEGE IN LONDON

A semester at the American College in London provides supplemental learning experiences to students enrolled in the fashion merchandising and clothing, textiles and design programs. This four-year college offers an opportunity to live where there are long traditions related to textile, apparel design and merchandising. One of the major retailing centers in the world, London provides opportunity for the study of a variety of businesses and exposure to other cultures.

SUMMER SESSION

Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. Students may pre-register or register each Monday of the week their classes are scheduled to begin. It is possible to earn 10 credits during the 10 weeks of summer session. Graduate students are encouraged to contact the Graduate College early in the spring. The Summer Session Bulletin is available after March 1. A copy will be sent on request. Pre-enrollment is encouraged in April and May.

PIGEON LAKE

The University of Wisconsin System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology and in mapping, outdoor education, recreation, and art. Class sessions vary from one to three weeks in length. Credit earned at the Station is accepted as residence credit at Stout. The Field Station is located in a natural outdoor laboratory among the lakes, streams and forests of relatively unspoiled portions of northern Wisconsin. For additional information, contact the Registrar at Stout or Dr. Paul Klem, Director of the Pigeon Lake Field Station, University of Wisconsin-River Falls.

THE GRADUATE COLLEGE

The Graduate College, a unit of the Division of Academic Affairs has the general responsibility for graduate education in the university, and administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs are administered as follows: School of Industry and Technology - Master's programs in Industrial Education, Management Technology, Safety, Vocational Education, and Educational Specialist's program in Industrial and Vocational Education; School of Home Economics - Master's programs, in Clothing, Textiles and Related Art, Food Science and Nutrition, Home Economics Education, and Hospitality and Tourism; School of Education - Master's programs in Guidance and Counseling, Marriage and Family Therapy, Professional Development, Education - School of Psychology, Vocational Rehabilitation, and Educational Specialist's program in Guidance and Counseling; Learning Resources - Master's program in Media Technology.

FINANCIAL INFORMATION

Since the catalog must be prepared far in advance, all fees, room and food rates, and other charges are subject to change without notice. Students are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. Stout offers an opportunity to pay fees in installments. This program requires \$200 plus miscellaneous charges or total payment at registration, whichever is less. The balance is due in two equal monthly installments. The fees on the following schedule incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses.

SEMESTER COSTS

The "non-resident" referred to on the schedule is defined as any student who has not been a resident of Wisconsin (or receiving Minnesota-Wisconsin Reciprocity) for one year preceding his admission. Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Semester fees for undergraduate students registered for 12 or more credits are:

Resident:	\$ 528
Non-resident:	1,694

MINNESOTA STUDENTS

Under the current reciprocity agreement approved by Minnesota and Wisconsin, students from Minnesota can attend public universities in Wisconsin and pay Minnesota tuition rates rather than non-resident tuition.

An application for reciprocity must be filed prior to the end of the period of enrollment.

SPECIAL INTEREST—SPLIT PROGRAM STUDENTS

Special interest students and students enrolled in split programs should inquire about the fee structure as it relates to them at the time of registration. Generally, a special interest student is an individual who does not expect to apply the earned credit toward a degree. A split program student is an individual who is enrolled in both graduate and undergraduate courses at the same time.

REFUND ON FEES

Withdrawal from semester courses generate refunds based on the following schedule: First week of classes, 100 percent; second week, 80 percent; third week, 60 percent; and fourth week, 40 percent. After the fourth week, there is no refund. Refunds for room and food service charges are based on the date of withdrawal.

UNPAID OBLIGATIONS

The University views a student's failure to meet his/her financial obligations as a very serious matter. Therefore, unpaid obligations of any nature due and payable by a student to Stout constitute valid reason for suspension from the institution upon failure to clear the obligation within a stated reasonable length of time. This includes all items such as library fines, assessments for damages in laboratories, residence halls, etc. The student is subject to suspension upon failure to clear within 15 days after notice is given and may not register for any succeeding terms until such obligations are cleared.

HOUSING INFORMATION

Residence hall living is a meaningful part of a student's life at Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. The University provides residence hall accommodations for approximately 2,900 students.

Freshmen and sophomores (59 credits or less) are required to live in the residence halls as long as space is available. Exceptions are made for veterans, married students and students living with their parents.

Students may and are encouraged to apply for residence hall accommodations immediately after being accepted to the University. An application card for the residence halls accompanies the letter of acceptance sent to the student by the Admissions office.

Contracts for residence hall rooms are sent to the students in the order in which applications for rooms have been received. Normally, students applying for residence hall space prior to March can be accommodated for the next academic year. A \$75 surety deposit is required with each contract. This deposit is applied against the final payment for the second semester. Rooms may be occupied the day prior to registration each semester. The contract is valid for the entire academic year.

Each room is furnished with two single beds and innerspring mattresses, dressers, study tables, chairs and bookcases. It is suggested that students not bring additional furniture. The rooms are approximately 11 feet by 15 feet. Radios, stereos and television sets are permitted in the rooms provided the students comply with the regulations for the use of this equipment. Television sets are also available for general use in the main lounge of each building. Small refrigerators are available on a rental basis.

Students living in residence halls are required to contract for their meals in the food-service facilities as provided. The meal contract plan provides various options. Cooking in student rooms is not permitted. Kitchenettes are available in each residence hall.

The University Housing office attempts to maintain a list of off-campus housing currently available. These are available upon request. Those planning to reside off campus may find it useful to visit Menomonie to secure the type of housing desired.

SCHOLASTIC STANDARDS

SEMESTER CREDIT

Credit is expressed in semester hours. A credit of one semester hour represents the satisfactory completion of the work of one recitation a week for a period of one semester. A course having five recitations a week will therefore give five semester hours of credit. In order to receive a degree, the student not only must gain the required number of credits in the course being pursued, but also must attain a certain standard of scholarship.

SUSPENSION AND PROBATION

A 2.0 grade point is needed for graduation. Education programs require 2.25. A lower grade point average at any time, although it may not result in probation or dismissal, cannot be construed as satisfactory progress toward a degree. Minimum acceptable standards for retention are defined as follows:

(1) First semester freshmen students will be placed on probation if they achieve a grade point average less than 1.7 at the end of the semester. They will be suspended if their grade point average is less than .75 at the end of the semester.

(2) Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the second semester is less than

1.8. They will be suspended if their grade point average is less than 1.0 for the semester.

(3) First semester sophomores will be placed on academic probation if the student's cumulative grade point average at the end of the semester is less than 1.9; the student will be dismissed if the current grade point average is less than 1.0 for the semester.

(4) Second semester sophomores or an upper division student, will be placed on academic probation and may be dismissed at the end of any semester in which the student's cumulative grade point average is less than 2.0; the student will be dismissed at the end of any semester in which the current grade point average is less than 1.0.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Generally, individuals placed on probation will not be allowed to continue on probation more than two semesters.

A student also will be in violation of academic standards if courses are not successfully completed each semester. Not receiving passing grades in more than five credits registered for during a term will result in probation and could, if continued, result in dismissal. This is true even if grades in courses completed exceed a "C" average.

REQUIREMENTS FOR GRADUATION

The semester credit hours required for graduation vary slightly with the major and are stated under the program of study for each major. The normal time required for the completion of these requirements is four years and results in the awarding of the bachelor of science or bachelor of arts degree. Meeting the requirements for graduation is a responsibility of the student. To fill the minimum residence requirement, the last 32-semester hours of credit (64 grade points) must be earned in residence at Stout. Candidates for degrees are required to file an Application for Degree card with the Records office one semester prior to graduation.

GRADE POINT AND SYMBOLS

A	=	4 grade points	I	=	Incomplete
B	=	3 grade points	CR	=	Pass (no grade points)
C	=	2 grade points	F	=	Fail
D	=	1 grade point	IP	=	In Progress
O	=	Outstanding (no grade points)	AU	=	Audit - no credit awarded
S	=	Satisfactory (no grade points)	NC	=	No Credit
U	=	Unsatisfactory (no grade points)	WS	=	Withdrawal - Satisfactory Work
W	=	Withdrawal from school before midterm	WU	=	Withdrawal - Unsatisfactory Work

GRADUATION WITH HONORS

In each graduating class, the selection of students for honors is based upon scholarship. Upon completion of a student's undergraduate work, a minimum cumulative grade average of 3.200 in 60 or more credits must have been earned. The designations Cum Laude (3.2 - 3.499), Magna Cum Laude (3.5 - 3.799) and Summa Cum Laude (3.8 - 4.000) are used. For commencement purposes, the cumulative GPA earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined at the time of final graduation checkout. A transfer student who has from 32 to 59.5 credits earned in residence will be considered for honors if the student's prior school(s) records met or exceeded the appropriate standard. Honors will be listed on the student's transcript and will appear on the diploma.

CHANCELLOR'S AWARD

Universities recognize many different kinds of achievement, all important parts of a total education. Since scholastic achievement is the basic purpose of higher education, academic excellence is acknowledged by the University through the Chancellor's Award. Students who receive a semester grade point average of 3.5 or above qualify for the award.

PROFESSIONAL TEACHER EDUCATION

The professional teacher education programs at Stout are administratively housed in the respective schools. Complete curriculum for specific teacher education programs are found elsewhere in this bulletin under Art Education, Early Childhood Education, Home Economics Education, Industrial Education, Marketing and Distributive Education, Special Education, and Vocational and Technical Education.

The officially designated coordinating unit for the various teacher education programs is the Teacher Education Council which is convened by the dean of the School of Education and Human Services and has appropriate representation from contributing departments and programs. The Office of Teacher Education serves a facilitative function for the Teacher Education Council and exists to support department and programs preparing educators. This office serves as a resource center for students, faculty, program directors and administrators; maintains appropriate student records; and serves as a clearinghouse for the Teacher Education Council, accrediting agencies and public agencies.

Teacher education students should obtain a copy of the Program Plan Sheet from their program director and a copy of the Teacher Education Student Handbook from the Office of Teacher Education to ensure all program and University requirements are met at the appropriate time.

Admission to Advanced Standing During the freshman year, each student enrolled in a teacher education program should begin fulfilling professional

standards requirements. In addition to possessing expertise in a subject area, an effective teacher has fundamental skills and competencies needed in any teaching field. The professional standards are intended to ensure that teacher education students meet certain basic standards of the profession. All teacher education students enrolled at Stout must meet all of the following standards by the time they apply for admission to Advanced Standing in a Teacher Education Program prior to enrolling for the term which will result in their completing more than 60 cumulative credits.

1. Communications:

- (A) *College English* Teacher education students must have earned a grade of at least a "C" in both English 326-101 and 326-102 or 321-111 and 326-112.
- (B) *Speech Proficiency* Teacher education students must also complete this speech proficiency requirement, as evaluated in 391-100, Fundamentals of Speech. This requirement may also be met by successful completion of the non-credit speech evaluation program or successful completion a second speech course selected from the following: 391-200, 391-202 or 391-206.

2. Academic Standards:

Teacher education students must maintain a minimum grade point average of 2.5.

Admission to Student Teaching Admission to Advanced Standing in a Teacher Education Program does not assure admission to student teaching. Application should be made for admission to student teaching as outlined in the Teacher Education Student Handbook.

TEACHER CERTIFICATION

Teacher education programs at Stout have been established to meet state teacher certification in Wisconsin. Programs will likely meet certification requirements in many, if not all other states. However, teacher certifications vary by state (may require state history, etc.) and requirements change periodically. Therefore, a student contemplating teaching in another state may wish to clarify the acceptance of the program at Stout by the state in which they plan to teach. The office of the School of Education and Human Services serves as a resource in this follow-up. The state education office of the state involved is also a resource in answering this question.

CREDIT REGISTRATION AND OVERLOAD POLICY

Courses are designed and graduation requirements are established so that a normal semester credit load is 16 or 17 credits. Students should only pre-register or complete final registration for those classes they fully intend to complete. Students may not register for classes which conflict with other class(es).

Undergraduate students with the exception of graduating seniors will be restricted to 16 credits during pre-registration. Once pre-registration is completed, students may add credits up to a maximum of 20 during the final Registration Add/Drop period.

Students seeking a waiver of the 16- or 20- credit limit may appeal to their program director. If approved the signed overload permit must be filed in the Registration and Records office each semester.

The maximum credit load for summer school for undergraduate and graduate students is one credit per week during the session(s) for which the student is enrolled. Courses in which the number of credits equals the number of weeks the course is offered precludes enrollment for additional credits during that time. Requests for an exception in special circumstances should be transmitted to the appropriate program director.

ADD/DROP POLICY

Careful planning should lead to schedules for students which are sound individual programs. The majority of students should not have a need for adding or dropping once classes start. Occasionally, conditions exist which do not permit students to carry through their course plans.

The following policy serves as Stout's procedures for adding or dropping classes:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (two week) Add/Drop period, they should do so as early as possible. A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add-period of a semester or quarter course but before the midterm date. After the midterm date, any withdrawal from a course is recorded as an "F." If extenuating circumstances warrant other consideration, an appeal may be made through the chairperson of the department in which the course is offered. Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F," except students who do not attend the first class meeting of a course, or who do not notify the instructor or department chairperson that they will be absent for special reasons, may at the instructor's option, be dropped from the course if, and only if, other students are waiting to enroll at that time.

FALSIFICATION OF RECORDS

Students are expected to provide the University with accurate information concerning their past, personal and educational history. The University policy indicates that any students who intentionally falsifies or omits information given as part of his University record, becomes subject to automatic suspension.

PROCEDURE FOR WITHDRAWAL

Withdrawal should be undertaken only after serious consideration. Persons intending to withdraw must schedule an exit interview at the Student Services office and complete a withdrawal form. A student who fails to withdraw officially from the University will receive a grade of "F" in all courses being pursued. Withdrawals after the midpoint of a term or course will generally result in "F" grades or grades as assigned by individual instructors.

FINANCIAL AID

The primary purpose of financial aid is to provide educational opportunities to financially needy students who, without such aid, would be unable to attend college and to alleviate financial worries as a source of concern for students.

The basic premise for all need based financial aid programs is that the primary responsibility for financing a student's education rests with the student and his/her family. The Federal and State aid is intended to meet those educational costs which remain after the student's resources and a reasonable expected contribution from his/her parents have been taken into account. To determine student need and award aid consistently and fairly, parents and students are required to fill out a financial statement listing their income, assets and liabilities. On the basis of this financial statement, the financial aid officer can determine the need, which is the amount parents and students can be expected to contribute subtracted from the cost to attend Stout for the year. Students are expected to contribute a portion of their assets as well as a standard expected savings (\$700 Freshman, \$900 Sophomore, Junior and Senior) from summer work.

Financial aid must be applied for annually. Financial assistance is awarded for the entire academic year. Each applicant is considered for all types of aid for which the applicant is eligible according to State and Federal regulation.

Financial Aid Proposals (awards) are based on full-time status, 12 credits or more. Students must consult with the Financial Aid office if planning to carry less than a full-time credit load as an adjustment will have to be made in the aid award.

Applicants are encouraged to submit financial statements by April 15 of each year. Applications received after that date are processed on a first come, first served basis. Applicants whose forms are in early are notified whether or not they are eligible for financial aid between June 1 and June 30.

Current information will be sent upon request from the Financial Aid office. Financial Aid counselors are available for consultation concerning efforts in financing an education. Students may wish to include a stop at the Financial Aid office if planning to visit the campus. Please call (715) 232-1363 or write for an appointment.

STUDENT SERVICES

Student Services has as its primary function the stimulation of student development in all phases of life. Student Services at Stout is concerned with maintenance/service oriented functions. Equally important are the educational and developmental functions which include tasks such as researching student needs; assisting students in assessing their own needs, potential, and development in their personal, academic and career vectors; motivating students to develop a commitment to growth in all areas of life; and assisting students in the integration of formal and informal educational experiences.

STUDENT ACTIVITIES

More than 100 student organizations and activities are represented on campus. They share a common purpose in providing opportunities which will help meet the extracurricular needs of students. Such diverse interests and organizations as band, dramatics, yearbook, newspaper, forensics, chorus, religion, politics, recreation, fraternities and sororities offer experiences which allow students to continually develop their interests. The University also has a complete recreation and intramural program for men and women.

STUDENT CENTER

The Memorial Student Center features lounges, snack bar, bowling, billiards, coffee house, bookstore and a recreation equipment rental center (camping equipment, canoes, bicycles, etc.).

NEW STUDENT ORIENTATION

A summer orientation and registration program provides new freshmen and their parents an opportunity to become better acquainted with the campus. During these scheduled one-day visits, parents become involved in a variety of orientation activities while students are provided with important information about degree programs, career opportunities, and academic advisement in course selection. The students develop the fall semester class schedule. Transfer and reentry students are also invited to campus during the summer to receive advisement and develop a class schedule. During the first few days of the fall semester, new students receive additional help through planned activities.

PROJECT ASPIRE

Project ASPIRE is a federally funded program that provides support services to selected students. The project offers activities and programs to aid individual in achieving academic success. Individual assistance and tutoring programs in academic areas, along with educational and career development activities and

services for students with disability are available. Special programs for those experiencing academic difficulty are also available. Interested individuals should contact member of the ASPIRE staff.

COUNSELING CENTER

Counselors are available to each University student to assist in deriving the maximum benefit from his university career. Counseling often provides a means to continue growth in self-understanding and in understanding others. Many decisions regarding educational, vocational or personal-social choices can more effectively be made with the help of a counselor. Counseling, psychological testing, and an extensive college catalog and vocational information library are available to all students who desire such assistance. Use of the Center is voluntary and is free of charge to Stout students. The vast majority of students using the services of the Center are experiencing "normal" kinds of concerns. Most students in the course of their college experiences will encounter some problems with which they could benefit from the help of an experienced, understanding person. The Center's hours are 8 a.m. to 4:30 p.m., Monday through Friday. Appointments to see a counselor may be made by calling Ext. 1211, or by directly contacting the Center.

VETERANS SERVICE

Special assistance is available to veterans by the Registration and Records office. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, and maintains liaison with the Veterans Administration, Department of Veterans Affairs, and the County Veterans Service Officers. All veterans receiving assistance must file the appropriate forms with this office.

PLACEMENT SERVICE

The University maintains a full-time Career Planning and Placement Service for all students and alumni. Staff members assist students in evaluating abilities and planning for the future. Placement of Stout graduates continues to be a major emphasis of the University. Three full-time Career Planning and Placement counselors are available. Career Days, campus recruitment, workshops and one-on-one counseling are just a few of the services. Statistical reports are available on the employment of past graduates.

ACADEMIC SKILLS CENTER

The Academic Skills Center is a service offered by Stout to any students interested in improving their reading, writing, spelling and study skills. Classes are available in Study Skills and Reading Improvement; these are offered on a

semester basis for two credits each. In addition, individualized self-instruction materials are available in the areas of reading, reading rate, retention, comprehension, spelling and vocabulary. Spelling instruction is offered each quarter in small groups. Students may also come to ASC for individual academic advisement. Support services are available for learning disabled students. Phone inquiries may be made at Ext. 1381 or Ext. 1125.

In addition, the Center coordinates a volunteer tutoring program, offering help in most classes on campus. Persons interested in volunteering to tutor or requesting a tutor should stop in at the Center. For further tutoring information, call Ext. 3086.

The Academic Skills Center is located in Room 201 of the Library Learning Center.

ETHNIC SERVICES CENTER

The Ethnic Services Center offers assistance to people of American Indian, Black, Hispanic and Asian backgrounds. Cultural programming is a large part of the services offered but the staff also handles academic advising, personal counseling and academic assistance.

INTERCOLLEGIATE ATHLETICS

The athletic program contributes to the total educational program of the University. It provides general educational values for the participants and provides a laboratory for those who are in the coaching certification program. Stout is a member of the Wisconsin State University Athletic Conference, the Wisconsin Women's Intercollegiate Athletic Conference, the National Association of Intercollegiate Athletics and the National Collegiate Athletic Association-Division III. The University sponsors seven women's and nine men's varsity teams. Women's teams include basketball, cross country, gymnastics, swimming, tennis, track and volleyball. Men's teams are baseball, basketball, cross country, football, golf, swimming, tennis, track and wrestling. The "S" Club is a campus organization for men and women who have earned letters in intercollegiate sports.

STUDENT HANDBOOK

A Stout "Student Handbook" is issued annually to each student. The booklet contains helpful information related to academic housing and campus policies, campus programs, rules and regulations, activities, organizations and services. It contains many of the details not found in the University's catalog.

SCHOOL OF INDUSTRY AND TECHNOLOGY

Dr. M. James Benson, Dean

Programs

General Business Administration
Industrial Education
Industrial Technology
Marketing and Distributive Education
Technical Education
Technical Education I & II

GENERAL BUSINESS ADMINISTRATION

PROGRAMS OF STUDY

The University allows students to graduate under the provisions of program requirements in effect at the time they began their program of study at Stout. The University, through its advisement system, provides annually updated program plan sheets for each major. Current program plan sheets reflect the competencies most desired in graduates. While students may choose to follow the program requirements listed in the catalog, students are encouraged to follow the program requirements as stated on the program plan sheets at the time of their initial conference with their faculty adviser. Students who begin a program with the intention of graduating from Stout must meet with a faculty adviser within three years of their initial enrollment at a post-secondary institution to determine the program requirements under which they will graduate.

SCHOOL OF INDUSTRY AND TECHNOLOGY

Dr. M. James Bensen, Dean

Programs:

- General Business Administration
- Industrial Education
- Industrial Technology
- Marketing and Distributive Education
- Technical Education
- Vocational Education (T & I)

GENERAL BUSINESS ADMINISTRATION

The Business Administration program at Stout is unique in that it blends business with technology. It has a solid foundation of general-liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring credits in a technical component allows a student to tap one or more of Stout's technology areas such as construction, packaging, electronics, robotics, foods, textiles, computers and the like to complement the business program.

The program is practical oriented with both a required on-campus practicum and off-campus field experience or internship. Recent graduates have obtained positions in areas of: sales, retailing, production control, manufacturing supervision, purchasing, cost accounting, personnel, restaurant management, automotive customer relations, banking and others.

Admissions to Business Administration Program: Beginning in the summer of 1984, students who enter the University with a declared interest in the Business Administration program are entered into a prebusiness classification. Prebusiness students must be admitted to the Business Administration program before registering for any term in which they will reach a total of 100 accumulated credits. Admission to the Business Administration program may be applied for after completion of the following requirements:

Completion of the following courses with a minimum grade of "C": 326-101, Freshman English—Composition or higher numbered English course; 391-100, Fundamentals of Speech or higher numbered Speech course; 320-210, Principles of Economics I; 160-206, Accounting I; 150-200, Production Management; 130-103, Communication and Information Technology; 160-100, Introduction to Business Administration.

Completion of a total of 45 or more credits with a GPA of at least 2.5/4.0. Transfer students are also entered into the prebusiness classification, and the requirements for admission to the program listed above apply. Transfer students should discuss the timing of their application for admission to the program with the program director during their first enrollment period.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in general/liberal studies -----	50-58 credits
Required in major studies -----	50-54 credits
Technical component-----	8 credits
Business electives -----	8 credits
Free electives -----	2-14 credits
Cumulative grade average for all courses completed at Stout—2.5/4.0	

PROGRAM REQUIREMENTS

GENERAL/LIBERAL STUDIES—50-58 credits required

Communications Cluster	Credit
326-101, Freshman English or 326-111, Honors English-----	3
326-102, Read/Writing or 326-112, Honors English -----	3
326-320, Business Writing or 326-516, Technical Writing ----	3
391-100, Fundamentals of Speech -----	2
<i>Select one course from: 391-136, Listening; 391-210, Interpersonal Speech Communication; or 479-570, Assertive Training Procedures; and one course from: 391-200, Persuasive Speaking; 391-206, Discussion; or 391-508, Speech Skills for Business and Industry; or select two courses from 391-200, 391-206 or 391-508.</i>	
<i>Select 6-9 credits from three areas or courses: 212-xxx, Family Relations; 303-xxx, Anthropology; 336-xxx, Geography; 375-xxx, Political Science; 387-xxx, Sociology; 459-101, Introduction to Vocational Rehabilitation; 479-xxx, Psychology; or 500-510, Introduction to Women's Studies.</i>	
<i>Select 6-9 credits from three areas or courses: 1xx-, any Futures Course; 300-xxx, Foreign Tour; 300-575, Ascent of Man; 304-xxx, Art History; 326-xxx, Literature; 32x-xxx, Foreign Language; 338-xxx, History; 365-375, Personal and Professional Ethics, 391-232, Introduction to Theater; or 600-, Film History/TV Appreciation.</i>	
<i>Select 5 credits from any of the following areas including at least one lab course: 308-xxx, Biology; 311-xxx, Chemistry; or 372-xxx, Physics.</i>	
<i>Select 2-3 credits from any of the following areas or courses: 304-xxx, Art; 326-, Advanced Writing; 360-xxx, Music; 391-xxx, Theater Art; 391-202, Oral Interpretation; 391-244, Radio Programming and Production; 391-554, TV Programming and Performance; or 600-504, Elementary Photo.</i>	
229-202/205, Nutrition; 366-102, Personal Health; or 366-340, First Aid and Safety -----	2
366-346, ARC Cardiopulmonary Resuscitation or 367-xxx, Physical Education (activity)-----	1

Quantative Cluster:

355-xxx, Mathematics for Management; 355-120, College Math I; or any higher math course-----	4
130-103, Communication Systems Technology-----	3
354-142, Pascal-Cobol Programming for Business-----	4
320-325, Business Statistics; 354-130, Elementary Statistics; or 354-530, Statistical Methods-----	2-3

MAJOR STUDIES—50-54 credits required**Foundation:**

150-115, Understanding Business and Industry or -----	2
160-304, Business Management -----	2
160-100, Introduction to Business Administration -----	1
160-206, Accounting I-----	3
160-207, Accounting II-----	3
320-210, Economics I-----	3
320-215, Economics II-----	3

Functional:

150-200, Production Management-----	3
160-330, Principles of Marketing -----	3
479-582, Personnel Management or 479-583, Human Resources Development-----	2-3
160-318, Business Law -----	3
160-340, Business Finance-----	3

*Select one course from each of at least two areas: 4-6 cr. **Accounting/Finance:** 160-335, 160-312, 160-320, 245-371 or approved selective. **Manufacturing:** 150-505, 150-520, 150-530, 150-540, 229-650 or approved selective. **Marketing:** 160-334, 160-336, 160-337, 214-430, 245-344 or approved selective. **Personnel/Supervision:** 140-581, 140-583, 198-560, 320-421, 459-587, 479-581 or approved selective.*

Comprehensive:

150-600, Organizational Leadership -----	3
160-690, Administrative and Business Policies -----	3
160-230, Small Business Management-----	3

*Select one course from each of the following three areas: **Legal:** 140-590, 160-319, 160-355, 160-573, 160-601, 245-625 or approved selective. **Advanced Economics:** 320-335, 320-350, 320-440, 320-445, 320-480, 320-550 or approved selective. **Systems and Computer:** 130-234, 160-310, 170-504, 354-240, 354-246, 355-153 or approved selective.*

Applied:

Select one practicum course: 3 cr. minimum. 150-514, Industrial Enterprise Practicum; 214-426, Fashion Merchandising Practicum; 245-312, Restaurant Operational Management; or other related practicum course.

Select one off-campus experience: 2 cr. minimum. 160-x49, Co-op Work Experience; 160-x89 Internship; or 160-x98, Field Experience.

TECHNICAL COMPONENT—8 credits

Select 8 credits of technical courses related to career areas such as Foods, Computers, Photography, Packaging, Textiles or others with approval of adviser.

ELECTIVES

Business Electives—8 credits

Free Electives—2-14 credits

Cumulative grade average for all courses completed at Stout—2.5/4.0

INDUSTRIAL EDUCATION

The Industrial Education graduate is one of the most sought after individuals in education today. The primary objective of Industrial Education is to prepare teachers for junior and senior high schools. These teachers may find themselves teaching industrial arts which is a part of general education that offers an insight into the industrial nature of our society. They also frequently teach vocational, trade and industrial programs in the secondary schools by meeting certification requirements. Graduates are sought by business and industrial firms for positions as industrial trainers.

There are three tracks within the major that students may select in meeting personal objectives. They are American Industry, General Industry and Specialized Technology.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation -----	130 credits
Required in general studies -----	51-52 credits
Required in major studies -----	42 credits
Required in professional education -----	29 credits
Electives -----	7-8 credits

PROGRAM REQUIREMENTS**GENERAL STUDIES—51-52 credits required (all tracks)**

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective-----	2

355-120 and 121, Introduction to College Mathematics I and II-----	8
479-110, General Psychology-----	3
320-201, General Economics-----	3
338-xxx, History elective-----	3
387-110, Introductory Sociology-----	3
375-210, Government-----	3
311-115, Introductory College Chemistry-----	5
372-221, Mechanics and Electricity-----	5
Science Elective-----	2-3
366-101, Health Survey-----	1
367-1xx, Physical Education elective-----	2

GENERAL INDUSTRY

The purpose in the General Industry concentration is to provide the students with a broad background in different technologies permitting them to teach multiple areas in high school programs in middle schools or junior high schools.

MAJOR STUDIES—42 credits required

170-101, Processes: Concepts-----	3
110-101, Energy in Industry-----	2
130-100, Communications-----	2
150-115, Understanding Business and Industry-----	2
110-103, Power Mechanics-----	2
110-204, Electricity-----	3
130-140, Graphic Arts-----	2
130-110, Drafting-----	2
150-514, Production Systems-----	3
170-205, Design for Industry-----	2
170-270, Light Building Construction-----	2
170-xxx, Processing elective-----	2
Technical electives-----	15

PROFESSIONAL EDUCATION—29 credits required

190-160, Introduction to Industrial Education-----	2
190-205, Methods of Teaching Industrial Education-----	2
190-390, Laboratory and Classroom Management in Industrial Education-----	2
190-405, Curriculum Development-----	2
190-406, Instructional Evaluation-----	2
190-408, Student Teaching-----	8
413-501, Guidance-----	2
421-303, Educational Psychology-----	2
421-522, Secondary Education Seminar-----	2
421-682, Reading Methods - Secondary School-----	2
431-630, Mainstreaming Special Students-----	3

ELECTIVES—7-8 credits required

Select courses offered at Stout or those approved for transfer.

SPECIALIZED TECHNOLOGY

A number of options are open to a student who wishes to specialize: Auto Mechanics; Communications; Electricity/Electronics; Graphic Arts; Industrial Graphics; Metal Technology; Materials Processing; Power and Energy; and Wood and Plastics Technology.

MAJOR STUDIES—42 credits required

Required courses are the same as those in the General Industry track. Technical electives are to be selected to meet the student's professional goals.

PROFESSIONAL EDUCATION—29 credits required

The professional credits are the same as those required in the General Industry concentration.

ELECTIVES—7-8 credits required

Select courses offered at Stout or those approved for transfer.

AMERICAN INDUSTRY

American Industry is a new approach to industrial arts. It places emphasis on understanding industry through involvement in functions common to all industries such as production, management and marketing. The American Industry curriculum prepares a student to teach American Industry at the junior and senior high school levels.

MAJOR STUDIES—27-28 credits required

170-101, Process Concepts -----	3
110-101, Energy in Industry -----	2
130-100, Communications-----	2
150-115, Understanding Business and Industry -----	2
110-103, Power Mechanics -----	2
110-204, Electricity-----	3
130-140, Graphic Arts-----	2
130-110, Drafting-----	2
150-514, Production Systems -----	3
170-205, Design for Industry -----	2
170-270, Light Building Construction -----	2
170-xxx, Processing Elective -----	2-3

AMERICAN INDUSTRY CONCENTRATION—15-16 credits required

150-200, Production Management-----	2
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150-410, Manufacturing Cost Analysis-----	2
160-330, Principles of Marketing -----	3
170-313, Wood Technology or 170-515, Metallurgy -----	3
150-x98, Field Experience -----	2
110-201, Transportation -----	2
600-560, A.V. Communications-----	2

PROFESSIONAL EDUCATION—29 credits required

The professional credits are the same as those required in the General Industry concentration.

VOCATIONAL CERTIFICATION

A student who wishes to become vocationally certifiable in Wisconsin must complete the course 469-502 Principles of Vocational, Technical and Adult Education and have a minimum of 2,000 hours of related work experience.

INDUSTRIAL TECHNOLOGY

Stout's Industrial Technology degree is a broadly based program designed to prepare individuals for a variety of responsible industrial positions. Graduates have gained recognition and success in many areas of industry. Typical assignments include production or construction supervision, quality assurance, packaging, process engineering, methods engineering, systems analysis, production control, cost estimating, purchasing, product design, sales and service, plant engineering, industrial relations, tools design, prototype development, and technical communications.

The program provides for learning experiences to develop competencies in each of four broad areas: knowledge of the characteristics of materials and manufacturing processes; understanding of management principles and their application to industrial problems; awareness of the environmental and sociological implications and those psychological principles which are important in working with, communicating with, motivating, and supervising people; and skill in utilizing the mathematical and physical sciences to understand and solve technological and economic problems found in industry.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in General/Related Studies -----	54-66 credits
Required in Professional/Technical Studies -----	62-63 credits
Electives -----	1-14 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—57-68 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective-----	2
367-1xx, Physical Education -----	1
366-101, Health Survey -----	1
479-110, General Psychology or -----	3
479-150, Humanistic Psychology -----	3
<i>Select any two of the following Social Science courses: 387-110, Introductory Sociology; 375-210, Government; 303-220, Anthropology; or 388-xxx, History -----</i>	6
320-201 or 210-210, Economics -----	3
355-153, Calculus or -----	
355-120, 121 and 153, Mathematics and Calculus I or -----	12
355-156, Calculus and Analytic Geometry I -----	5
354-130, Elementary Statistics or -----	2
354-530, Statistical Methods -----	3
354-141, Digital Computer Programming -----	2
311-115, Introductory College Chemistry-----	5
372-221 and 372-223, Mechanics and Electricity, and Light and Sound -----	8
<i>Select two to three credits from Humanities and Fine Arts group -----</i>	2-3
304-xxx, Art Elective; 326-xxx, Literature Elective; 360-xxx, Music Elective; 365-201, Introduction to Philosophy; 365-375, Professional Ethics; or 391-xxx, Theater Course Elective.	
<i>Select two to three credits from Environment group -----</i>	2-3
308-122, Biology: An Environmental Approach; 311-553, Environmental Chemistry; 170-301, Technology-Resources-Environment; 308-150, Man and Environment; or Approved Elective.	
<i>Select four to five credits from Personal Health/Development group -----</i>	4-5
367-xxx, Physical Education and 366-101, Health Survey.	
<i>Select additional two to three credits from: -----</i>	4-5
229-202, Fundamentals of Nutrition; 212-250, Family Relations I; 479-571, Psychology of Marriage and Family; 479-570, Assertiveness Training; 367-xxx, Physical Education Activity; or Approved Elective.	

PROFESSIONAL/TECHNICAL STUDIES—62-63 credits required

150-150, Industrial Organization -----	2
150-200, Production Management-----	3
160-105, Fundamentals of Financial Accounting -----	2
150-500, Engineering Economy -----	3
150-600, Organizational Leadership -----	3

479-483, Human Resources Development -----	2
320-420, Labor Economics or 320-421, Collective Bargaining -----	2-3
140-581, Principles of Occupational Safety -----	2
160-232, Fundamentals of Marketing -----	2
<i>Technical Foundation Courses:</i>	
110-204, Electricity -----	3
130-110, Drafting -----	2
<i>Select an additional six to eight credits, depending upon concentration, from:</i>	
110-103, Power Mechanics -----	2
110-260, Introduction to Fluid Power -----	2
130-120, Construction Drafting -----	2
130-140, Graphic Arts -----	2
170-201, Processes, Manufacturing -----	3
170-202, Metals -----	2
170-222, Industrial Ceramics -----	3
170-250, Plastics I -----	2
170-270, Light Building Construction -----	2
170-275, Construction Materials -----	2
170-280, Packaging Fundamentals -----	2
170-312, Materials -----	3

CONCENTRATION CORE—A minimum of 20 required credits in one of the following concentrations, plus 10 additional professional/technical selectives is required.

BUILDING CONSTRUCTION

130-424 Architectural Technology
130-526 Construction Specification Writing
150-570 Estimating and Analyzing Construction Costs
150-670 Systems Approach to Construction Management
170-370 Commercial Building Construction
150-x98 Field Experience or
170-575 Building Construction Practicum
160-573 Legal Aspects of Construction
130-527 Site Engineering

110-556	Digital Circuits
110-548	Instrumentation and Control
110-640	Techniques for Network Analysis
372-518	Microprocessors and Applications
355-154	or 157 Calculus II
355-255	Differential Equations
<i>Select at least three additional courses from among:</i>	
110-348	Motors and Generators
110-349	Power Distribution
110-548	Instrumentation and Control
110-552	Electronic Communication
110-517	Applied Integrated Circuits
372-518	Microprocessors

ELECTRONICS

110-343 Introduction to Solid-State Electronics
110-345 Network Analysis
110-543 Linear Circuits

GRAPHIC ARTS

130-246 Typography
130-251 Composition
130-355 Line and Halftone Photography

- 130-366 Image Transfer
- 130-370 General Binding
- 130-475 Printing Economics
- 130-543 Graphic Arts Production Techniques
- 130-557 Color Separation

INDUSTRIAL DISTRIBUTION

- 160-336 Industrial Marketing Management
- 160-438 Industrial Distribution
- 160-334 Sales and Sales Management
- 391-xxx Listening
- 160-xxx Industrial Distribution Seminar

MANUFACTURING ENGINEERING

- 150-540 Time and Motion Study
- 150-505 Production and Inventory Control
- 150-520 Quality Assurance
- 150-410 Manufacturing Cost Analysis
- 150-510 Production Processing
- Select two options from the following:*
- 130-290 Mechanics of Solids I or
- 372-531 Statistics
- 130-291 Mechanics of Solid II or
- 372-325 Strength of Materials
- 130-592 Mechanics of Machinery I or
- 372-533 Dynamics
- 130-593 Mechanics of Machinery II
- 372-222 Heat and Thermodynamics
- 311-531 Quantitative Analysis
- 311-541 Chemistry of Materials

MECHANICAL POWER TRANSMISSION

- 110-240 Electronics
- 110-348 Motors and Generators
- 110-303 Mechanical Power Transmission

- 110-548 Instrumentation and Control
- 110-503 Problems in Power Transmission
- 170-334 Salesmanship and Sales Management
- 150-530 Material Handling Approved Selective

PACKAGING

- 170-280 Packaging Fundamentals
- 170-315 Packaging Materials
- 170-380 Packaging Systems
- 170-480 Packaging Design and Evaluation
- 170-580 Packaging Development
- 170-585 Packaging Seminar
- 304-101 Fundamentals of Design
- 311-541 Chemistry of Materials or
- 372-325 Strength of Materials or
- 308-306 General Microbiology

PLANT ENGINEERING

- 130-424 Architectural Technology
- 150-550 Plant Layout
- 150-x97 Field Experience-Series
- 150-xxx Internship
- 311-553 Environmental Chemistry
- 150-450 Maintenance Management
- 372-222 Heat and Thermodynamics
- 372-325 Strength of Materials
- Select one of*
- 110-506 Energy Management
- 150-530 Material Handling
- 170-372 Heating and Air Conditioning

PRODUCT DEVELOPMENT

- 130-290 Mechanics of Solids I
- 130-291 Mechanics of Solids II
- 130-592 Mechanics of Machinery I
- 130-593 Mechanics of Machinery II
- 130-532 Mechanical Design
- 130-537 Mechanical Design Drafting
- 130-311 Technical Drafting

SECONDARY RESOURCE MANAGEMENT

- 170-301 Technology-Resources-Environment
- 170-312 Materials
- 170-401 Solid Waste Technology
- 170-403 Secondary Resource Systems Management
- 170-503 Resource Recovery Practicum
- 150-410 Manufacturing Cost Analysis
- 311-541 Chemistry of Materials

TECHNICAL COMMUNICATIONS

- 130-103 Communication and Information Technogy
or
- 391-208 Theory of Communication
- 160-370 Principles of Advertising
- 130-xxx Advanced Graphic Arts Course
- 130-414 Technical Illustration
- 600-504 Elementary Photography

- 600-561 Preparation of A/V Material

Select five credits

- 354-240 Intermediate Computer Programming
- 326-425 Copy Editing/Preparation
- 600-630 Audio/Film/TV Production
- 130-636 Computer Assisted Design Problems
- 110-240 Electronics

TECHNICAL SALES AND SERVICE

- 150-520 Quality Assurance
- 160-410 Manufacturing Cost Analysis
- 160-318 Business Law
- 150-304 Principles of Management
- 160-330 Principles of Marketing
- 160-334 Salesmanship and Sales Management
- 160-370 Principles of Advertising
- 160-679 Market Research or
- 479-579 Public Relations

GENERAL OR SPECIAL

Students who have identified professional objectives which cannot be met within the established concentration may develop in consultation with the program director, a special program to meet personal interests and needs. The student who cannot or does not wish to select a specific concentration will be placed in a structured, general program.

FIELD EXPERIENCE

Work experience related to the individual's professional goals should be obtained through participation in the Field Experience program. A year-round cooperative education program is also available for selected students. Both programs carry academic credit.

ELECTIVES—11-19 credits required

Candidates for the degree should select their electives to complement objectives of their concentration.

MARKETING AND DISTRIBUTIVE EDUCATION

The field of distribution requires training for owners, managers, and employees engaged primarily in marketing or merchandising goods and services. Marketing Teacher Education at Stout provides the teachers to train the work force.

Marketing and Distributive Education is one area of the fields of vocational education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing and distributive education at the secondary and post-secondary levels. Some graduates enter marketing positions in business and industry.

Marketing and Distributive Education students have three options from which to choose in order to fulfill their major requirements—General Marketing, Fashion Merchandising, and Hotel and Restaurant Management.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation----- 130-134 credits
 Required in liberal studies----- 53 credits
 Required in major studies ----- 34-36 credits
 Required in professional education ----- 42 credits
 Electives ----- 1-3 credits
2. Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified for teaching vocational marketing and distributive education in Wisconsin and Minnesota.
3. Students must fulfill the English adequacy and speech proficiency requirements.
4. Specific course requirements and additional information about minors and/or concentrations can be obtained from the Program Director.
5. Students must have a 2.3 or higher cumulative grade point average to enter the teacher education program. Some courses require a "B" to be counted in this program.
6. Participation in Collegiate DECA is required.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—53 credits required

Course	Credit
English (326-101 and 102, or 326-111 and 112) -----	6
Speech (391-100)-----	2
Physical Education (367-xxx)-----	2
Health Survey (366-101)-----	1
Social Science (320-210 and 215, 375-210 and 387-110)-----	12

Business Mathematics (355-119) -----	4
Science (must include one lab course) -----	8
Humanities-----	9
Fine Arts -----	3
Electives -----	6

MAJOR STUDIES—34-36 credits required

Option No. 1—General Marketing/Retailing

160-206, Principles of Accounting -----	3
160-207, Principles of Accounting -----	3
150-304, Principles of Business Management -----	3
160-318, Business Law -----	3
160-323, Retail Merchandising and Management -----	3
160-330, Principles of Marketing -----	3
160-334, Salesmanship and Sales Management-----	3
160-370, Principles of Advertising -----	3
150-600, Organizational Leadership -----	3
479-582, Personnel Management -----	3

Select from 4 to 6 credits:

160-355, Principles of Insurance -----	2
160-365, Principles of Real Estate -----	2
160-679, Marketing Research-----	3
160-690, Administrative and Business Policies -----	3
320-325, Economic and Business Statistics -----	3
479-579, Public Relations-----	2

Total 34-36

Option No. 2—Fashion Merchandising

160-206, Principles of Accounting -----	3
160-207, Principles of Accounting -----	3
150-304, Principles of Business Management -----	3
160-323, Retail Merchandising and Management -----	3
160-330, Principles of Marketing -----	3
160-334, Salesmanship and Sales Management-----	3
160-370, Principles of Advertising -----	3
214-120, Introduction to Apparel, Textiles and Merchandising-----	2
214-225, Clothing and Textile Industry -----	3
214-227, Basic Merchandising-----	3
214-525, Mens' and Boys' Merchandising -----	1

Select from 4 to 6 credits:

214-298, Field Experience -----	2
214-319, Economics of Clothing -----	3
214-329, Fashion Merchandise Promotion -----	3
214-430, Merchandise Planning and Control -----	2
214-625, Mass Merchandising-----	3

Total 34-36

Option No. 3—Hotel and Restaurant Management	
160-206, Principles of Accounting-----	3
160-207, Principles of Accounting-----	3
150-304, Principles of Business Management-----	3
160-323, Retail Merchandising and Management-----	3
160-330, Principles of Marketing-----	3
160-334, Salesmanship and Sales Management-----	3
160-370, Principles of Advertising-----	3
245-140, The Role of Management in the Hospitality Industry-----	3
245-240, Introduction to Tourism and the Travel Industry---	2
245-205, Hospitality Organization Management-----	3
308-206, Food Service and Environmental Sanitation-----	1
<i>Select from 4 to 6 credits:</i>	
229-124, Foods-----	4
246-202, Front Office Management-----	3
245-344, Hospitality Marketing and Sales-----	3
Total 34-36	

PROFESSIONAL EDUCATION REQUIREMENTS—42 credits

Marketing and Distributive Education—24 credits	
196-201, Introduction to Teaching Marketing and Distributive Education-----	3
196-202, Organization and Administration of DECA-----	3
196-301, Methods in Distributive Education-----	4
196-401, Curriculum Development in Distributive Education	3
196-501, D.E. Project - Model Store Simulation-----	3
196-408, Student Teaching - Distributive Education-----	8
Educational, Vocational Education, General Psychology—18 credits	
479-100, General Psychology-----	3
421-205, Human Relations for the Helping Professions-----	2
421-303, Educational Psychology-----	2
421-682, Reading Methods - Secondary Schools-----	2
431-630, Mainstreaming Special Students-----	3
199-502, Principles of Vocational Education-----	2
199-560, Cooperative Occupational Educational Programs---	2
600-560, Audio-Visual Communications-----	2
Total 42	

GENERAL ELECTIVE - From 1 to 3 credits

TECHNICAL EDUCATION

The Technical Education degree program is designed for persons interested in teaching at the technical institute or junior college level.

The growth of the technical programs in post high school institutions has created a need for teachers who have depth of training and experience in a particular technology. The starting salary for post high school teachers is usually higher than for other teaching positions.

The degree requires a serious interest in a technology as well as a strong capability in mathematics and physical science. The students must also be available during summer periods so that the minimum related work experience requirement of 2,000 hours can be met.

Some technical teaching positions require that the teacher serve, on a part-time basis, in one of the academic areas related to the technology. To teach mathematics or science at a technical institute in Wisconsin on less than half time load, the teacher must have a minimum of 20 credits in the discipline. It is recommended that the prospective technical teacher prepare to teach in mathematics or science.

Program plans are available for two technologies, electronics and mechanical design. These programs are described in detail below. Because there are so many recognized technologies and the need for teachers in certain technologies is limited, formal program plans for special technologies are custom made for the student. The program director for the Technical Education major must be contacted in advance of the school term so a valid degree program in a specific technology can be arranged.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation----- 130 credits
 Required in liberal studies----- 57-59 credits
 Required in major studies ----- 42-49 credits
 Required in professional education ----- 22 credits
 Electives ----- 2-8 credits
2. Completion of adequate related industrial experience.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—57-64 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective (electronics only)-----	2
355-120 and 121, Mathematics-----	8
355-153 and 154, Calculus (mechanical design 153 only) or---	8
355-156 and 157, Calculus and Analytic Geometry -----	10

479-110, General Psychology -----	3
338-xxx, History elective -----	3
320-201, General Economics -----	3
375-210, Government -----	3
367-1xx, Physical Education -----	2
366-101, Health Survey or -----	1
366-340, ARC Standard First Aid and Personal Safety -----	
311-115, Introductory College Chemistry -----	5
372-221, Mechanics and Electricity -----	5
372-222, Heat and Thermodynamics (mechanical design only) -----	3
372-223, Light and Sound (electronics only) -----	3
326-xxx, Literature elective (electronics only) -----	3

MAJOR STUDIES—41-49 credits required in either Electronics Concentration or Mechanical Design Concentration.

Electronics Concentration—41 credits

110-204, Electricity -----	3
110-343, Intro. to Solid State Electronics -----	3
110-348, Motors and Generators -----	2
110-543, Linear Circuits -----	3
110-556, Digital Circuits -----	3
110-548, Instrumentation and Control -----	3
110-640, Techniques of Network Analysis -----	3
372-518, Microprocessors and Applications -----	3
110-552, Electronic Communication -----	3
372-252, Laser and Light Waves -----	1
130-110, Drafting -----	2
170-202, Metals -----	2
110-103, Power Mechanics -----	2
150-150, Industrial Organizations -----	2
354-141, Digital Computer Programs -----	2
Electives (Technical) -----	4

Mechanical Design Concentration

130-110, Drafting -----	2
130-311, Technical Drafting -----	3
130-212, Descriptive Geometry -----	3
130-290, Mechanics of Solids I -----	3
130-291, Mechanics of Solids II -----	3
130-592, Mechanics of Machinery I -----	3
130-593, Mechanics of Machinery II -----	3
130-532, Mechanical Design -----	4
130-433, Tool and Die Design -----	2
130-537, Mechanical Design Drafting -----	2
110-204, Electricity -----	3
354-141, Digital Computer Programming -----	2

150-150, Industrial Organization -----	2
170-515, Metallurgy-----	3
170-101, Processes: Concepts -----	3
170-230, Machine Shop -----	2
Electives -----	6

PROFESSIONAL EDUCATION—24 Credits required

190-205, Methods of Teaching Industrial Education -----	2
190-405, Curriculum Development-----	2
190-406, Instructional Evaluation in Industrial Education ---	2
190-408, Student Teaching -----	8
199-502, Principles of Vocational, Technical and Adult Education-----	2
199-534, Task Analysis-----	2
413-501, Introduction to Guidance-----	2
421-205, Human Relations-----	2
421-303, Educational Psychology-----	2

ELECTIVES—2-8 credits required

To be selected in consultation with adviser.

VOCATIONAL EDUCATION

(Trade and Industry)

The undergraduate vocational teacher education program in trades and industries is especially designed to prepare a person to teach a trade type occupation to a broad segment of this country's work force. Future auto mechanics, welders, machinists, electricians and others require well prepared teachers to teach the necessary skills and knowledge.

Job opportunities for vocational trade and industrial teachers have been on a constant increase. These opportunities are found in vocational schools, community colleges, private vocational schools and in the training departments of industrial plants.

An individual who has completed an apprenticeship or vocational training program in a trade and has worked as a tradesman makes an ideal candidate for this program.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation-----	130 credits
Required in liberal studies-----	52 credits
Required in major studies-----	42 credits
Required in professional education -----	24 credits
Electives -----	16 credits

2. A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, trade and industrial courses. This requirement must also be met before a degree can be granted. (For more details, see program director.)
3. Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.25 and meet the speech, English and health requirements as described in the Professional Education section of course descriptions.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—53-55 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective-----	2
354-141, Digital Computer Programming -----	2
355-120 and 121, Introduction to College Math I and II -----	8
479-110, General Psychology -----	3
320-201, Economics-----	3
338-xxx, History elective-----	3
387-110, Sociology -----	3
375-210, Government-----	3
311-115, Introductory College Chemistry-----	5
372-221, Mechanics and Electricity -----	5
Science elective-----	3
366-101, Health Survey or-----	1
366-340, ARC Standard First Aid and Personal Safety -----	2
367-1xx, Physical Education -----	2

MAJOR STUDIES—42 credits required

Because each student brings different qualifications as a result of prior training and experience, the student with the assistance of the program director will define all 42 technical credits in terms of student and job competency needs.

PROFESSIONAL EDUCATION—24 credits required

190-205, Methods of Teaching Industrial Education -----	2
190-405, Curriculum Development-----	2
190-406, Instructional Evaluation in Industrial Education ----	2
190-408, Student Teaching -----	8
199-502, Principles of Vocational, Technical and Adult Education-----	2
199-534, Task Analysis-----	2
413-501, Introduction to Guidance-----	2
421-205, Human Relations -----	2

421-303, Educational Psychology-----

2

ELECTIVES—9-11 credits required

SCHOOL OF HOME ECONOMICS

Dr. J. Anthony Samenfink, Dean

Programs:

- Child Development and Family Life
- Clothing, Textiles and Design
- Dietetics
- Early Childhood Education
- Fashion Merchandising
- Food Service Administration
- Home Economics in Business
- Home Economics Education
- Home Economics General
- Hotel and Restaurant Management

CHILD DEVELOPMENT AND FAMILY LIFE

The Child Development and Family Life program is the study of human development and family life in which child, family and community are viewed as interrelated. A multi-disciplinary approach provides perspective and specialized knowledge to deepen the understanding of people and to develop creative approaches to serving them. Graduates of the program are prepared for advanced study that will lead to positions in family life education, university teaching and research, child care services, and related areas.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. They work in Stout's Child and Family Study Center, Day Care, and/or Infant-Toddler Laboratory. Schools, hospitals, human service agencies, community groups, adolescent group homes, homes for older people, and University Extension programs provide opportunities for the synthesis of practical and theoretical knowledge in child development and family life.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	128 credits minimum
Required in general studies -----	49 credits
Required in major studies:	
Child Development Concentration-----	79 credits
Family Life Concentration-----	79 credits
Human Resources Management	
Concentration-----	79 credits

PROGRAM REQUIREMENTS**GENERAL EDUCATION STUDIES—49 credits required**

General Requirements—minimum of 16 credits

Course	Credit
326-101 or 326-111, Freshman English: Composition*-----	3
326-102 or 326-112, Freshman English: Reading and Related Writing*-----	3
391-100, Fundamentals of Speech*-----	2
<i>Select a minimum of 9 credits from:</i> Biology 308-122, 134, 332, 333; Chemistry 311-115, 135; Physics 372-221, 254, 252, 251; Mathematics 355-118*, 120-----	9
<i>Select a minimum of 12 credits from:</i> Anthropology 303-250; Economics 320-201, 210; Geography 336-104; Political Science 375-210; Psychology 479-110*; or Sociology 387-110*-----	12
<i>Select a minimum of 13 credits from:</i> Literature (minimum of 3 credits) 326-303, 348, 355, 400; History (minimum of 3 credits) 338-105, 120, 140; Language and Philosophy (minimum of 2 credits) 326, 339, 328, 101, 329-103, 326-201, 301, 300-255, 100-500; Fine Arts (minimum of 5 credits) from Art, Music, Media, Speech, Theater-----	13
367-xxx, Any Physical Education Activity Course(s)*-----	1
Electives to total 49 credits.	
Required courses with a minimum grade of "C" or better, including transfer credits*	

MAJOR STUDIES—79 credits required**Family Life Concentration—79 credits**

212-101, Introduction to Child Development and Family Life Programs*-----	1
212-401, Professional Issues: Child Development and Family Life*-----	1
212-124, Child Development I*-----	3
212-163, Adult-Child Interaction*-----	2

212-524, Child Development II*-----	3
212-530, Adulthood and Family*-----	3
212-680, The Aging Person-----	2
212-250, The Individual and Family Relations*-----	3
212-350, Dynamics of Family Development*-----	3
212-660, Current Sex Research*-----	1
387-205, Introduction to Social Work*-----	3
387-420, Child and Family Agencies*-----	2
212-685, Seminar on Culturally Distinct Child and Family*--	3
212-264, Child Guidance*-----	2
242-201, Teaching Techniques*-----	2
242-651, Family Life Education Programs*-----	2
212-407, Parent Education/Involvement*-----	2
212-535, Seminar in Self-Growth*-----	2
212-650, Introduction to Marriage and Family Therapy*-----	3
212-651, Seminar in Marriage and Family Therapy*-----	3
413-666, Alcoholism and Family Systems Intervention*-----	2
375-510, Public Policy Analysis*-----	3
212-601, Child and Family Law*-----	3
212-610, Family Impact Seminar*-----	3
212-654, Workplace and Family*-----	2
245-676, Family Finance*-----	2
212-553, Dual Career Families*-----	1
212-590, Family Research and Methodology*-----	3
212-265, Child Guidance Practicum*-----	1
212-693, Child Development and Family Life Practicum*----	4
<i>Choose 3 credits from the following:</i>	
212-251, Early Years of Marriage-----	1
212-351, Death and Family-----	1
212-352, Parenthood-----	1
212-451, Divorce-----	1
212-554, Single Parent Family-----	1
212-570, Singlehood-----	1
212-580, Future of the Family-----	1
212-638, Child Abuse and Neglect-----	2
212-652, Fatherhood-----	1
212-666, Family Planning-----	1
387-215, Sociology of the Family-----	3
<i>Choose 3 credits from the following:</i>	
229-212, Nutrition-----	3
245-360, Consumer Economics-----	3
245-650, Human Habitat-----	3
Electives to total 79 credits	

Child Development Concentration—79 credits

212-101, Introduction to Child Development and Family Life Programs*-----	1
212-401, Professional Issues: Child Development and Family Life*-----	1

212-124, Child Development I* -----	3
212-163, Adult-Child Interaction* -----	2
212-524, Child Development II* -----	3
212-530, Adulthood and Family* -----	3
366-340, ARC First Aid and Personal Safety* -----	2
212-250, Individual and Family Relations* -----	3
387-205, Introduction to Social Work* -----	3
212-685, Seminar on Culturally Distinct Child and Family* --	3
387-420, Child and Family Agencies* -----	2
212-264, Child Guidance* -----	2
212-204, Teaching/Learning Strategies: Early Childhood Education* -----	5
212-342, Creative Activities for Young Children* -----	3
212-407, Parent Education/Involvement* -----	2
212-665, Administration of Early Childhood Education Programs* -----	2
375-510, Public Policy Analysis* -----	3
212-601, Child and Family Law* -----	3
212-610, Family Impact Seminar* -----	3
212-535, Seminar in Self-Growth* -----	2
212-607, Parent Counseling* -----	2
212-590, Family Research and Methodology* -----	3
212-265, Child Guidance Practicum* -----	1
212-235, Child Development Lab* -----	1
212-693, Child Development and Family Practicum* -----	4
<i>Choose 2 credits from the following:</i>	
431-532, Psychology of the Exceptional Child -----	2
212-680, Aging Person -----	2
229-136, Food for Young Children -----	2
<i>Choose 4 credits from the following:</i>	
212-351, Death and the Family -----	1
212-352, Parenthood -----	1
212-451, Divorce -----	1
212-553, Dual Career Families -----	1
212-554, Single Parent Family -----	1
212-580, Future of Family -----	1
212-638, Child Abuse and Neglect -----	2
212-652, Fatherhood -----	1
212-666, Family Planning -----	1
387-215, Sociology of the Family -----	1
<i>Choose three credits from the following:</i>	
229-404, Food Service Management -----	2
229-405, Food Service Practicum -----	1
150-600, Organizational Leadership -----	3
387-250, Social Psychology -----	3
479-582, Personnel Management -----	3
Electives to total 79 credits	

Human Resources Management Concentration—79 credits

212-101, Introduction to Child Development and Family Life Programs* -----	1
212-401, Professional Issues: Child Development and Family Life * -----	1
212-124, Child Development I* -----	3
212-163, Adult Child Interaction* -----	2
212-524, Child Development II* -----	3
212-530, Adulthood and Family* -----	3
212-250, Individual and Family Relations* -----	3
212-350, Dynamics of Family Development* -----	3
387-205, Introduction to Social Work* -----	3
387-420, Child and Family Agencies* -----	2
212-264, Child Guidance* -----	2
242-201, Teaching Techniques* -----	2
242-651, Family Life Education Programs* -----	2
212-535, Seminar in Self-Growth* -----	2
212-650, Introduction to Marriage and Family Therapy* -----	3
212-651, Seminar in Marriage and Family Therapy* -----	3
413-666, Alcoholism and Family Intervention Systems* -----	2
150-600, Organizational Leadership* -----	3
479-582, Personnel Management* -----	3
212-665, Administration of Early Childhood Education Programs* -----	2
375-510, Public Policy Analysis* -----	3
212-601, Child and Family Law* -----	3
212-610, Family Impact Seminar* -----	3
212-654, Workplace and the Family* -----	2
245-676, Family Finance* -----	2
212-553, Dual Career Families* -----	1
212-590, Family Research and Methodology* -----	3
212-265, Child Guidance Practicum* -----	1
212-693, Child Development and Family Life Practicum* -----	4
<i>Choose three credits from the following:</i>	
212-251, Early Years of Marriage -----	1
212-351, Death and the Family -----	1
212-352, Parenthood -----	1
212-451, Divorce -----	1
212-554, Single Parent Family -----	1
212-570, Singlehood -----	1
212-580, Future of the Family -----	1
212-638, Child Abuse and Neglect -----	2
212-652, Fatherhood -----	1
212-660, Current Sex Research -----	1
212-666, Family Planning -----	1
387-215, Sociology of the Family -----	3
<i>Choose three credits from the following:</i>	
229-212, Nutrition* -----	3
245-360, Consumer Economics* -----	3

245-650, Human Habitat*-----

3

CLOTHING, TEXTILES AND DESIGN

The Clothing, Textiles and Design program is organized into four concentrations related to selected areas of the clothing and textile industries and integrates specific vocational education with liberal education. Students select one major concentration and an appropriate minor or 22-credit emphasis area.

Career opportunities for a graduate in the Clothing, Textiles and Design program are directly related to the areas of concentration. The Apparel Manufacturing Concentration prepares graduates for positions related to apparel manufacturing and operations. The Apparel Design Concentration prepares graduates for careers in designing apparel, fashion illustration, fashion coordination, promotion or public relations. The Textile Design Concentration provides opportunities to develop creative expression in applied textile design or in fabric design. The Textile Technology Concentration provides opportunities to develop creative expression in applied textile design or in fabric design. The Textile Technology Concentration prepares graduates for careers in quality control, product evaluation, mill production or manufacturing supervision. Graduates are prepared for advanced study that would lead to careers in textiles, chemistry, research and engineering.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
General studies-----	48 credits
Professional studies-----	50 credits
Minor or emphasis-----	22 credits
Free electives-----	10 credits

PROGRAM REQUIREMENTS

GENERAL STUDIES—48 credits required

Course	Credit
304-101, Fundamentals of Design-----	3
320-210, Principles of Economics I-----	3
326-101 or 326-111, English-----	3
326-102 or 326-112, English-----	3
366-xxx or 367-xxx, Physical Education-----	2
339-100, Fundamentals of Speech-----	2
<i>Select 3.5 credits from the following areas: 308-xxx Biology (for Apparel Concentration); 311-115 or 311-135 Chemistry (for Textile Concentration); 372-xxx Physics.</i>	

Select 4 credits from the following areas: 354-xxx Applied Math or 355-xxx Math.

Select 3 credits from the following areas: 212-250 Family Relationships I, 303-220 Introduction to Cultural Anthropology or 387-110 Introductory Sociology.

Select 3 credits from the following areas: 479-110 General Psychology or 479-150 Man: A Course of Study.

Select 6 credits from at least two of the following areas: 304-xxx Art-non-performance, 326-xxx Literature, 338-xxx History, 360-xxx Music-non-performance, 365-xxx Philosophy, 375-xxx Political Science, 500-xxx Interdisciplinary Studies.

Select 6 credits from at least two of the following areas: 304-xxx Art-performance, 326-xxx Writing, 328-xxx or 329-xxx Foreign Language, 360-xxx Music-performance, 391-xxx Speech.

Select liberal arts elective credits not included in concentration to total a minimum of 48 credits.

MAJOR STUDIES-50 credits required from concentration selected

Concentration in:

APPAREL DESIGN

214-120 Introduction to Apparel, Textiles and Merchandising	214-680 Draping
214-110 Principles of Apparel Design	214-617 Social-Psychological Aspects Clothing
214-140 Textiles	214-581 Theory of Functional Clothing
214-225 Clothing and Textile Industry	214-685 Apparel Design Studio
214-266 Apparel Construction	214-402 Undergraduate Clothing and Textile Research
214-419 Textile and Clothing Economics	214-372 Apparel Manufacturing
214-366 Pattern Adjustment and Fit	214-568 Engineered Tailoring
304-534 Fashion Illustration	214-605 Foreign Study Tour
214-368 Experimental Clothing	214-639 National Study Tour to Fashion Industry
214-550 Textile Evaluation	214-655 Recent Developments in Clothing and Textiles
214-580 Flat Pattern	214-666 Custom Tailoring
214-398 Field Experience	214-670 Theatrical Costume
214-375 Pattern Grading	214-695 Historic and Contemporary Fabrics
214-610 History of Costume-Ancient to European or	
214-611 History of American Costume	

APPAREL MANUFACTURING

214-120 Introduction to Apparel, Textiles and Merchandising	214-225 Clothing and Textile Industry
214-140 Textiles	214-272 Industrial Sewing

214-419 Textile and Clothing Economics	214-605 Foreign Study Tour
214-372 Apparel Manufacturing	214-656 U.S. Textile Study Tour
150-304 Principles of Business Management	214-650 Textile Science
354-530 Statistical Methods	214-666 Custom Tailoring
214-550 Textile Evaluation	214-680 Draping
214-568 Engineered Tailoring	150-200 Production Management
214-398 Field Experience	150-600 Organizational Leadership
214-580 Flat Pattern	479-582 Personnel Management
214-375 Pattern Grading	479-579 Public Relations
150-514 Production Systems	150-440 Plant Layout and Materials Handling
214-266 Apparel Construction	150-505 Production and Inventory Control
214-402 Undergraduate Clothing and Textile Research	150-520 Quality Assurance
214-366 Pattern Adjustment and Fit	150-540 Time and Motion Study

TEXTILE DESIGN

214-120 Introduction to Apparel, Textiles and Merchandising	214-691 Advanced Textile Design: Non-Loom
214-109 Applied Design for Family Living	214-692 Advanced Textile Design: Hooking
214-110 Principles of Apparel Design	214-694 Advanced Weaving Studio
214-140 Textiles	214-591 Natural Dyeing and Spinning
214-225 Clothing and Textile Industry	214-266 Apparel Construction
214-419 Textile and Clothing Economics	214-368 Experimental Clothing
214-695 Historic and Contemporary Fabrics	214-402 Undergraduate Clothing and Textile Research
214-590 Practicum in Textile Design	214-545 Commercial Household Textiles
214-592 Practicum in Textile Printing	214-550 Textile Evaluation
214-693 Structural Design and Weaving	214-366 Pattern Adjustment and Fit
214-398 Field Experience	214-580 Flat Pattern
214-610 History of Costume-Ancient to European or	214-605 Foreign Study Tour
214-611 History of American Costume	214-639 National Study Tour to Fashion Industry
214-617 Social, Psychological Aspects of Clothing	214-645 U.S. Textile Study
214-6xx Textile Design Studio	214-650 Textile Science
214-690 Advanced Textile Design: Stitchery	130-140 Graphic Arts
	304-100 Drawing
	304-305 Presentation Techniques
	304-310 Graphic Design I
	304-500 Drawing
	304-517 Printmaking
	600-504 Photography

TEXTILE TECHNOLOGY

214-120	Introduction to Apparel, Textile and Merchandising	214-605	Foreign Study Tour
214-140	Textiles	214-645	U.S. Textile Study Tour
214-225	Clothing and Textile Industry	214-694	Advanced Weaving
214-419	Textile and Clothing Economics	214-695	Historic and Contemporary Fabrics
214-541	Fabric Maintenance	245-658	Experimental Laundry Procedures
354-530	Statistical Methods	214-655	Recent Developments in Clothing and Textiles
214-550	Textile Evaluation	311-201	Organic Chemistry Lecture
214-398	Field Experience	311-203	Organic Chemistry Lab
214-545	Commercial and Household Textiles	311-501	Physical Chemistry Lecture
214-650	Textile Science	311-503	Physical Chemistry Lab
214-693	Structural Design and Weaving	311-531	Quantitative Analysis
311-521	Textile Chemistry	311-535	Instrumental Methods of Analysis
214-6xx	Issues in Textile Research	326-347	Critical Writing
214-402	Undergraduate Clothing and Textile Research	326-515	Technical Writing for Home Economics
214-591	Natural Dyeing and Hand Spinning	326-525	Writing Technical Articles
		326-546	Research Reporting

DIETETICS

This program will provide the academic background for a career as a clinical dietitian, administrative dietitian or nutrition educator. This program meets academic requirements for membership in the American Dietetic Association (ADA). In a 1976 listing of occupations where shortages exist, the field of dietetics ranked fourth.

The dietetic student receives an education with equal emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this balance, the student can move toward the more technical or the more general areas of Dietetics.

GENERAL REQUIREMENTS—B.S. DEGREE:

- | | |
|----------------------------------|-------------|
| Total for graduation----- | 132 credits |
| Required in liberal studies----- | 51 credits |
| Required in major studies----- | 66 credits |
| Concentrations----- | 15 credits |
- The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

3. Work experience must be obtained through participation in the Field Experience program.
4. Students must attain a grade of "C" or better in each of the courses within the Liberal Studies and Major Studies. Students must also maintain a 2.5 grade point average with Major Studies. Students will have until the second semester of their junior year to attain the 2.5 average. All transferred credits will meet this program requirement.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—51 credits required

Course	Credit
391-100, Fundamentals of Speech and Speech for Proficiency Exam* -----	2
391-206, Discussion -----	2
391-208, Theory of Communication -----	3
391-204, Techniques of Group Leadership -----	2
391-512, Speech Skills for Educators -----	2
329-103, Elementary Spanish -----	4
329-104, Elementary Spanish -----	4
413-444, Introduction to Group Process -----	2
326-101, Freshman English: Composition* -----	3
326-102, Freshman English: Reading and Related Writing* --	3
326-546, Research Reporting, or* -----	2
326-515, Technical Writing for Home Economics -----	3
355-123, Finite Mathematics with Applications, or* -----	4
xxx-xxx, Three years of high school academic mathematics---	0
421-303, Educational Psychology* -----	2
242-201, Teaching Techniques in Home Economics or* -----	2
421-205, Professional Teacher Education -----	2
242-240, Clinical Experience in Micro-Teaching -----	1
242-341, Clinical Experience in Schools -----	1
242-241, Clinical Experience in the Community -----	1
600-560, Audio-Visual Communications* -----	2
229-606, Nutrition Education* -----	3
354-140, Concepts of Computer, or* -----	2
354-141, Digital Computer Programming -----	2
212-xxx, Any Human Development and Family Living Course	
387-110, Introductory Sociology* -----	3
214-617, Social-Psychological Aspects of Clothing -----	3
303-220, Introduction to Cultural Anthropology* -----	3
479-110, General Psychology* -----	3
338-xxx, Any History Course -----	3
320-210, Principles of Economics I* -----	3
375-210, Government, or* -----	3
375-220, State and Local Government* -----	3
375-310, Political Parties and Pressure Groups -----	3

375-320, Civil Liberties in the U.S.-----	3
375-260, Problems of American Foreign Policy-----	3
375-340, International Relations-----	3
311-125, Principles of Chemistry for Health Sciences,* or----	5
311-135, College Chemistry I-----	5
311-201, Organic Chemistry Lecture*-----	3
311-203, Organic Chemistry Lab*-----	1
308-306, General Microbiology*-----	4
308-132, Physiology and Anatomy*-----	4
308-362, Advanced Psychology*-----	3
367-121, Exercise and Fitness*-----	1
367-xxx, Any Physical Education class*-----	5
311-511, Biochemistry*-----	4
<i>Select 9 credits from three different areas of the following:*</i>	
304-xxx, Any Art course	
326-xxx, Any Literature course	
360-xxx, Any Music course, except 360-090, Stage Band	
365-xxx, Any Philosophy course, except 365-301, Logic	
391-232, Introduction to Theater or 391-334, Contemporary Theater	
600-535, Film: History and Appreciation	

MAJOR STUDIES—65 credits required

229-212, Nutrition*-----	3
229-240, Food Science*-----	4
229-410, Advanced Nutrition*-----	3
229-308, Meal Management*-----	3
229-618, Diet Therapy*-----	4
245-501, Food Service Administration*-----	3
245-311, Quantity Food Production*-----	3
245-222, Institutional Food Purchasing*-----	2
245-521, Food Service Equipment*-----	2
366-340, First Aid and Safety*-----	2
150-304, Principles of Business Management*-----	3
479-582, Personnel Management*-----	3
229-101, Dietetics as a Profession*-----	1
229-x98, Field Experience, or*-----	1
245-x98, Field Experience-----	1
354-130, Elementary Statistics, or*-----	2
354-530, Statistical Methods-----	3
229-638, Experimental Food*-----	3
229-661, Social and Cultural Aspects of Food*-----	2

Select at least one concentration of 15 credits from the following:

CLINICAL NUTRITION

229-505 Nutrition of the Aged	229-680 Community Nutrition
229-630 Food Behavior	311-515 Food Chemistry
229-633 Maternal and Child Nutrition	

- | | |
|--|--|
| 311-612 Advanced Biochemistry (for graduate school-bound students) | 479-540 Psychology of Individual and Group Differences |
|--|--|

COMMERCIAL DIETETICS

- | | |
|--|--|
| 229-608 Advanced Meal Management Practicum | 326-525 Advanced Technical Writing |
| 229-620 Food Styling | 600-504 Elementary Photography |
| 229-630 Food Behavior | 600-593 Television Production Techniques |
| 229-642 Advanced Foods | |
| 245-685 Demonstration Techniques | |

COMMUNITY NUTRITION

- | | |
|---------------------------------------|---|
| 229-xxx Community Nutrition Programs | 229-680 Community Nutrition |
| 229-xxx Community Nutrition Practicum | 375-220 State and Local Government (if not taken under 2.4.1) |
| 229-505 Nutrition for the Aged | 375-310 Political Parties and Pressure Groups |
| 229-633 Maternal and Child Nutrition | |

CONSULTANT DIETETICS

- | | |
|---|---|
| 106-206 Principles of Accounting | 245-371 Food, Beverage and Labor Cost Control |
| 130-180 Hospitality, Living and Institutional Facility Planning | 413-444 Introduction to Group Process |
| 150-450 Maintenance Management | 229-505 Nutrition of the Aged |
| 229-620 Food Styling | 229-630 Food Behavior |
| 242-240 Micro-Teaching | 229-680 Community Nutrition |
| 242-241 Clinical Experience in the Community (Hospital or Nursing Home) | 245-621 Food Service Layout Analysis |
| 245-312 Restaurant Operations Management | |

FOOD SERVICE ADMINISTRATION

- | | |
|--|---|
| 160-206 Principles of Accounting | 245-312 Restaurant Operations |
| 229-260 Menu Planning and Design | 245-371 Food, Beverage and Labor Cost Control |
| 229-608 Advanced Meal Management Practicum | 245-621 Food Service Layout Analysis |
| 229-620 Food Styling | |
| 229-642 Advanced Foods | |

GERIATRIC NUTRITION

- | | |
|----------------------------------|--------------------------------|
| 212-351 Death and the Family | 212-680 The Aging Person |
| 212-530 Adulthood and the Family | 229-505 Nutrition for the Aged |

- | | |
|---|--|
| 229-608 Advanced Meal Management Practicum | 229-642 Advanced Foods |
| 229-512 Clinical Experience in Elderly Nutrition Programs | 229-680 Community Nutrition |
| 229-630 Food Behavior | 242-241 Clinical Experiences in the Community (Nursing Home) |

NUTRITION AND FOODS COMMUNICATION (RADIO, TV)

- | | |
|--|---|
| 229-620 Food Styling | 229-642 Advanced Foods |
| 229-680 Community Nutrition | |
| 242-240 Micro-Teaching or | 391-600 Organizational Communication |
| 245-685 Demonstration Techniques | |
| 391-244 Radio Program Production or | 600-593 TV Production Techniques or |
| 391-554 TV Programming and Performance | |
| 600-561 Preparation of AV Materials | 600-636 Fundamentals of Motion Picture Production |

NUTRITION EDUCATION

- | | |
|---|---|
| 229-505 Nutrition for the Aged | 242-620 Vocational Programs |
| 229-630 Food Behavior | 242-630 Concepts of Extension Education |
| 229-633 Maternal and Child Nutrition | 245-685 Demonstration Techniques |
| 229-680 Community Nutrition | For vocational certification: |
| 242-301 Home Economics Curriculum* | 413-501 Introduction to Guidance |
| 242-240 Clinical Experience in Micro-Teaching* | 469-602 Principles of Vocational, Technical and Adult Education |
| 242-341 Clinical Experience in the High School* | |
| 212-407 Parent Education | |
| 242-350 Laboratory Techniques for Teaching and Learning in Home Economics | *Required for double major in Home Economics Education. |

NUTRITION FACILITY PLANNING

- | | |
|---|--|
| 110-530 Human Factors Engineering | 130-526 Building Construction Specifications |
| 130-xxx Advanced Hospitality Living and Institutional Facility Planning | 170-570 Mechanical Systems |
| 130-180 Hospitality Living and Institutional Facility Planning | 245-436 Lighting for Residential Interiors |
| 130-325 Architectural Design II (prerequisite waived) | 245-621 Food Service Layout Analysis |

PRENATAL, INFANT AND CHILD NUTRITION

- | | |
|------------------------------------|--------------------------------------|
| 212-124 Child Development I | 229-630 Food Behavior |
| 212-264 Child Guidance | |
| 212-407 Parent Education | 229-633 Maternal and Child Nutrition |
| 212-524 Child Development II | |
| 229-405 Food Service Practicum CDC | 229-680 Community Nutrition |

SECONDARY DIETARY EDUCATION

- | | |
|---|--|
| 212-xxx Mini courses in Family Life | 242-444 Practicum in Teaching |
| 212-124 Child Development I | 242-443 Clinical Seminar in Home Economics Education |
| 212-250 Family Relations I | |
| 212-264 Child Guidance | 245-250 Family Housing |
| 212-350 Family Relations II | 245-275 Management of Family Resources |
| 212-680 Aging Persons | |
| 214-109 Applied Design for Family Living | 245-360 Consumer Economics |
| 214-110 Male/Female Apparel | 413-501 Introduction to Guidance |
| 214-140 Textiles I | |
| 214-266 Apparel Construction | 421-422 Secondary Education Seminar |
| 242-101 Experiential Learning in Home Economics | 421-381 Secondary Reading |

SYSTEMS DIETETICS

- | | |
|---|---------------------------------------|
| 254-141 Digital Computer Programming | 354-241 Assembly Language Programming |
| 354-xxx Computer Applications for Dietetics | |
| 354-240 Intermediate Computer Programming | 354-341 Data Structures |
| | 355-153 Calculus I |

VOCATION/FOOD SERVICE AND NUTRITION

- | | |
|--|---|
| 229-620 Food Styling | 413-501 Introduction to Guidance |
| 242-240 Micro-Teaching | |
| 242-301 Home Economics Curriculum | 421-461 Education Evaluation |
| 242-620 Vocational Programs | |
| 245-312 Restaurant Operations Management | 199-602 Principles of Vocational, Technical and Adult Education |

EARLY CHILDHOOD EDUCATION

This Early Childhood Education program provides students with the knowledge and skills needed for working with young children in educational settings. The prescribed courses meet the requirements for Nursery-Kindergarten teaching certification for the State of Wisconsin. A cooperative program with the University of Wisconsin-Eau Claire offers the opportunity for additional certification in grades 1-8.

The Early Childhood Education program places emphasis both on general education and preparation for a professional career. In the major studies, involvement with children and families begins the freshman year with observation/participation experiences in Stout's Child and Family Study Center, Day Care Facility, and/or Infant-Toddler laboratory. General education encourages exploration of a variety of fields of knowledge to provide educational experiences that will develop the ability to express one's self effectively, develop clear and critical thinking, and develop awareness of the great ideas and accomplishments of mankind.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation----- 135 credits
 Required in general education studies----- 49 credits
 Required in major studies ----- 86 credits
2. Cumulative G.P.A. of 2.25 is required for entrance to student teaching.
3. Upon entrance to 212-408A Student Teaching in Preschool Programs, students must have on file a current physical health examination certificate and tuberculosis test.
4. Students in Early Childhood Education must demonstrate English composition and speech proficiency by obtaining a "C" or better in English 102 or its equivalent (or achieve a proficiency rating on an English proficiency test), and pass a speech proficiency test before they become certified for teaching.

PROGRAM REQUIREMENTS

GENERAL EDUCATION STUDIES—49 credits required

General requirements—minimum of 16 credits

Course	Credit
326-101* or 326-111, Freshman English: Composition-----	3
326-102* or 326-112, Freshman English: Reading and Related Writing-----	3
391-100, Fundamentals of Speech* -----	2
479-110, General Psychology*-----	3
367-xxx, Any Physical Education Activity Course(s)*-----	1

355-118, Concepts of Mathematics* or 355-120, Intro to College Math I -----	4
<i>Select a minimum of 8 credits from:</i> Biology 308-122, 134, 142, 152; Chemistry 311-115 or 135; Physics 372-251, 252, 254.	
<i>Select a minimum of 6 credits from:</i> Political Science 375-210* or Anthropology 303-250, Economics 320-201, 320-210, Geography 336-104 or Sociology 387-110.	
<i>Select a minimum of 13 credits - Literature</i> (minimum of 3 credits) 326-303, 348, 355, 400, 401; <i>History</i> (minimum of 3 credits) 338-105, 120, 121, 140, 141; <i>Language and Philosophy</i> (minimum of 2 credits) 326-339, 328-101, 329-103, 365-201, 365-301, 300-255 and 100-500.	
<i>Select a minimum of 5 credits from</i> Art, Music, Media, Speech, Theater. Electives to total 49 credits.	

MAJOR STUDIES—minimum of 86 credits

Career Development—minimum of 1 credit	
212-100, Introduction to Early Childhood Education Programs* -----	1
Developmental Processes, Health and Safety—minimum of 17 credits-----	
212-124, Child Development I* -----	3
212-163, Adult-Child Interaction*-----	2
212-250, Individual and Family Relations* -----	3
479-451, Children's Learning*-----	3
431-532, Psychology of Exceptional Child* -----	2
229-136, Food for Young Children*-----	2
366-340, ARC First Aid and Personal Safety* -----	2
Professional Education—minimum of 54 credits. (The following four-level sequence of courses must be taken in sequence with each level satisfactorily completed before courses in the next level can be taken.)	
Level I	
212-264, Child Guidance* -----	2
212-265, Child Guidance Practicum* -----	1
360-308, Music for Young Children* -----	3
421-303, Educational Psychology* -----	2
367-265, Physical Activities for Young Children* -----	2
326-300, Literature for Young Children* -----	3
Level II	
212-204, Teaching/Learning Strategies: Early Childhood Education* -----	5
212-168, Fostering Language Development in Young Children* -----	3
600-560, Audio Visual Communication* -----	2
212-342, Creative Activities For Young Children* -----	3
212-433, Reading in Early Childhood Education* -----	3
Level III	
212-303, Curriculum I: Language Arts and Social Sciences in Early Childhood Education*-----	2

212-333, Curriculum II: Science and Mathematics in Early Childhood Education*-----	2
212-545, Programming for Early Childhood Exceptional Education Needs*-----	2
212-407, Parent Education/Involvement*-----	2
212-685, Seminar in Culturally Distinct Child and Family* and -----	3
212-235, Child Development Lab*-----	1
Level IV	
212-408A, Student Teaching in Preschool Programs**-----	4
212-409, Clinical Seminar in Preschool Programs*-----	.5
212-408B, Student Teaching in Kindergarten**-----	4
212-411, Clinical Seminar in Kindergarten Education*-----	.5
212-420, Theories of Early Childhood Education*-----	2
212-665, Administration of Early Childhood Education Programs*-----	2

*Required courses with grade of "C" or better.

**Students must have accumulative GPA of 2.25 for acceptance into student teaching and must make written application to the program director two semesters before enrolling these practica.

Electives-minimum of 14 credits

Students may use electives to fulfill requirements for one of the following concentrations: Supervision and Training; Day Care Programming; Kindergarten Education; Education Children Special Learning Needs; Administration; and Elementary Education Cooperative Program with University of Wisconsin-Eau Claire.

COOPERATIVE PROGRAM IN ELEMENTARY EDUCATION AND EARLY CHILDHOOD EDUCATION

A two-semester, 23-semester hour program permits Stout students in the N-K certification program to add 1-8 certification at UW-Eau Claire prior to graduation.

The following requirements may be met at either institution:

UW-Eau Claire			UW-Stout	
PSYC 334	Psychology of Exceptional Child	431-532	Psychology of Exceptional Child	2
or		3		
SPED 400	Education of Exceptional Child	3		
SOC 301	Marriage and Family (Elective)	212-250	Family Relations (Elective)	3
PSYC 331	Child Psychology	3 212-124	Child Development I	3
LMED 205	Children's Literature	2 326-300	Children's Literature	3
MUSI 240	Music in the Elementary School	360-204	Music for the Young Child	3
ELED 380	Educational Media	2 600-560	A-V Communication	2

The following requirements must be taken at UW-Eau Claire:

Semester I

ELED 306 Methods in Math

ELED 307	Methods in Language Arts	2	
ELED 308	Methods in Science	2	
ELED 309	Methods in Social Studies	2	
ELED 310	Methods in Reading	3	
MATH 206	Math for Elementary Teachers	<u>4</u>	
		15	credits
Semester II			
ELED 330	Diagnosis and Remediation of Reading Problems	3	
ELED 321	Evaluation in the Elementary School	2	
ELED 435	- ELED 436, or both—Student Teaching	<u>3</u>	(minimum)
		8	credits

FASHION MERCHANDISING

Fashion Merchandising is a four-year program designed to prepare students for entry into the retail department store specialty and/or low margin store business. Program requirements are structured to provide the student with specific retailing skills and comprehension; broad knowledge of general business in areas such as marketing, accounting, economics and advertising; and self-growth through a variety of liberal studies such as mathematics, humanities, social sciences, English, science and communications. In addition to a Fashion Merchandising major, the program includes a minor in business, with the potential for a second major or second minor utilizing the free elective allowances.

Career possibilities available to Fashion Merchandising majors are limited only to the individual's capabilities. But a typical, not exclusive, broad list would include: group manager, store manager, buyer, divisional merchandise manager, resident buyer, director of personnel, promotion-publicity manager and operations manager. There is little limitation to type of merchandise, which typically includes: apparel, gifts-china, fashions for the home such as interiors and domestics, shoes, cosmetics, furniture, fabrics, and entertainment centers. Independent study projects or transfer requirements must have approval of the program director.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies-----	54-59 credits
Required in major studies-----	63-64 credits
Electives -----	8-15 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—54-59 credits required

COMMUNICATION SKILLS CLUSTER (GPA 2.5)	Credit
326-101, Freshman English: Composition-----	3
326-102, Freshman English: Reading and Writing-----	3
326-any, Writing-----	3
391-100, Fundamentals of Speech-----	2
<i>Select 2-4 credits from the following:</i>	
391-200, Persuasive Speaking-----	2
391-206, Discussion-----	2
391-210, Interpersonal Communications-----	2
391-508, Speech Skills for Business and Industry-----	2

GENERAL STUDIES CLUSTER

338-xxx, History or 375-xxx, Political Science-----	3
387-110, Introduction to Sociology-----	3
326-xxx, Any Literature-----	3
304-101, Fundamentals of Design-----	3
304-xxx, Any Art-----	2-3
366- or 367, Physical Education-----	2
479-110, General Psychology-----	3
<i>Select 2-4 credits</i>	
391-232, Introduction to Theater-----	3
360-xxx, Music-----	1-2
328-xxx, French-----	4
329-xxx, Spanish-----	4
<i>Select 3 credits</i>	
212-250, Family Relations-----	3
303-xxx, Anthropology-----	3
365-xxx, Philosophy-----	3
<i>Select 4-5 credits</i>	
308-xxx, Biology-----	2-4
311-115, Chemistry-----	5

MAJOR STUDIES—63-64 credits required

RETAIL CLUSTER (GPA 2.5 - Min. 2.0 in each course)

214-398, Field Experience-----	2
214-120, Introduction to Clothing, Textiles and Merchandising-----	2
214-227, Basic Merchandising-----	3
214-327, RTW Merchandising-----	2
214-329, Merchandising Promotion-----	3
214-430, Merchandising Plan and Control-----	3
214-525, Mens-Boys Merchandising-----	1
214-625, Mass Merchandising-----	3
214-527, Store Management-----	3
214-426, Practicum (Niche)-----	3

RETAIL RELATED BUSINESS CLUSTER (GPA 2.5)

320-210, Economics I*	3
320-215, Economics II*	3
160-206, Accounting I	3
160-207, Accounting II	3
150-304, Principles of Business Management	3
160-330, Marketing	3
160-334, Sales Management	3
160-370, Advertising	3
<i>Select 2 courses from the following:</i>	
150-600, Organizational Leadership	3
479-579, Public Relations	2
479-582, Personnel Management	3

RETAIL RELATED CLUSTER

214-110, Principles of Apparel Design	1
214-140, Textiles	3
214-225, Clothing and Textiles Industry	3
214-610, History of Costume: Ancient to European or	3
214-611, History of American Costume	3
214-617, Social-Psychological Aspects of Clothing	3
245-360, Consumer Economics	3
355-xxx, Math (but not 010-116)*	4

*Represents 10 credits of Liberal Studies

ELECTIVES—8-15 credits required

Electives are selected from courses approved at Stout, or those approved for transfer. Special options are available, including a semester in London, semester internships, study tours during spring break, and other special activities designed to add to academic and personal growth.

FOOD SERVICE ADMINISTRATION

This program meets academic requirements for membership in the American Dietetic Association (ADA).

The program in Food Service Administration provides the academic background for a career as an administrator in large quantity food production and service facilities. Areas in which a food service administrator would be concerned in serving nutritional diets to large groups of people (100 or more) are: industrial feeding; airline feeding; school food service; university food service; nursing home and hospital food service; day care and geriatric centers; fast food service; commissary food production; vending food operation; and supermarket management. Concentrations available in non-traditional employment are: Food Service Equipment Design, Food Service Equipment Manufacturing, Food Service Equipment Marketing and Sales, and Food Service Facility Planning.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation-----133-134 credits
 Required in general studies ----- 64-70 credits
 Required in major studies ----- 68 credits
 Electives ----- 15-16 credits
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
3. Work experience must be obtained through participation in the Field Experience program.
4. Students must attain a grade of "C" or better in each of the courses within Liberal Studies, Major Studies and concentrations. These requirements also apply to transfer credits.

PROGRAM REQUIREMENTS

GENERAL STUDIES—68-73 credits required

Course	Credit
391-100, Fundamentals of Speech and Speech Proficiency Exam* -----	2
391-206, Discussion -----	2
391-208, Theory of Communication -----	3
391-204, Techniques of Group Leadership -----	2
391-512, Speech Skills for Educators -----	2
329-103, Elementary Spanish -----	4
329-104, Elementary Spanish -----	4
413-444, Introduction to Group Processes -----	2
326-101, Freshman English: Composition* or 326-111, Honors English-----	3
326-102, Freshman English: Reading and Related Writing* or -----	
326-112, Honors English -----	3
326-546, Research Reporting* or -----	2
326-515, Technical Writing for Home Economics*-----	3
355-120, Introduction to College Math* or -----	4
xxx-xxx, Three years of high school academic mathematics*	0
421-303, Educational Psychology* -----	2
242-201, Teaching Techniques in Home Economics or* -----	2
421-205, Professional Teacher Education -----	2
242-240, Clinical Experience in Micro-Teaching-----	1
242-341, Clinical Experience in Schools-----	1
242-241, Clinical Experience in the Community -----	1
600-560, Audio-Visual Communications* -----	2
354-140, Concepts of Computer* or -----	2
354-141, Digital Computer Programming -----	2
354-130, Elementary Statistics or -----	2
354-530, Statistical Methods-----	2

212-xxx, Any Human Development and Family Living Course-----	
387-110, Introductory Sociology*-----	3
214-617, Social-Psychological Aspects of Clothing-----	3
303-xxx, Any Anthropology*-----	3
479-110, General Psychology*-----	3
338-xxx, Any History course-----	3
320-210, Principles of Economics I*-----	3
320-215, Principles of Economics II*-----	3
320-420, Labor Economics*-----	3
375-210, Government* or-----	3
375-310, Political Parties and Pressure Groups* or-----	3
375-320, Civil Liberties in the United States*-----	3
311-125, Principles of Chemistry for Health Sciences-----	5
311-201, Organic Chemistry Lecture*-----	3
311-203, Organic Chemistry Lab*-----	1
308-306, General Microbiology*-----	4
308-132, Physiology and Anatomy*-----	4
229-212, Nutrition* (*)-----	3
*Required Courses	
(*) 311-201, Organic Chemistry and 308-132, Physiology and Anatomy, prerequisites.	
<i>Select 9 credits from three different areas of the following*</i>	
304-101, Fundamentals of Design-----	3
326-xxx, Any Literature course	
360-xxx, Any Music course, except 360-090, Stage Band	
365-xxx, Any Philosophy course, except 365-301, Logic	
391-232, Introduction to Theater or 391-334, Contemporary Theater	
600-535, Film: History and Appreciation	
367-xxx, Physical Education (Activity)	

MAJOR STUDIES—45-47 credits required

229-101, Dietetics as a Profession*-----	1
229-240, Food Science* (*)-----	4
245-311, Quantity Food Production*-----	3
229-661, Social and Cultural Aspects of Food*-----	2
229-308, Meal Management*-----	3
245-312, Restaurant Operational Management*-----	3
229-260, Menu Planning and Design*-----	2
245-x98, Field Experience*-----	2
245-222, Institutional Food Purchasing*-----	2
245-371, Food, Beverage and Labor Cost Controls*-----	2
245-501, Food Service Administration*-----	3
245-521, Food Service Equipment*-----	2
245-656, Microwave Oven*-----	2
160-206, Principles of Accounting I*-----	3
160-207, Principles of Accounting II*-----	3
160-318, Business Law-----	3
160-330, Principles of Marketing*-----	3

150-304, Principles of Business Management*-----	3
479-582, Personnel Management*-----	3
366-340, Standard First Aid and Personal Safety*-----	2

*Required courses

(*) 311-201, Organic Chemistry, prerequisite

CONCENTRATIONS:

FOOD SERVICE EQUIPMENT DESIGN

130-110 Drafting or	304-330 Industrial Design I
130-311 Technical Drafting	304-340 Industrial Design II
130-513 Technical Rendering	245-6xx Food Service Analysis Seminar
170-205 Design for Industry	

FACILITY PLANNING

130-180 Hospitality, Living and Institutional Facility Planning	214-109 Applied Design in Family Living or
140-587 Human Factors Engineering	214-545 Commercial and Household Textiles
130-526 Building Construction Specifications	130-325 Architectural Design II
170-570 Mechanical Systems	245-621 Food Service Layout Analysis
245-436 Residential and Industrial Lighting or	

FOOD SERVICE EQUIPMENT MANUFACTURING

130-110 Drafting or	170-260 Sheet Metal
372-xxx Physics for Home Economics	170-209 General Finishing
170-202 Metals	245-6xx Food Service Analysis Seminar
170-250 Plastics I	

FOOD SERVICE EQUIPMENT MARKETING AND SALES

130-180 Hospitality, Living and Institutional Facility Planning	160-370 Principles of Advertising
170-201 Processes: Manufacturing	160-679 Marketing Research
160-334 Salesmanship and Sales Management	245-6xx Food Service Analysis Seminar

ELECTIVES—15-16 credits required. Select from courses offered at Stout or those approved for transfer.

HOME ECONOMICS IN BUSINESS

Home Economics in Business is a four-year program leading to a Bachelor of Science degree. The goal of this program is to develop competencies which will enable a person to function effectively as a member of a business organization. This task is accomplished by a combination of classes from Liberal Studies, Major Studies, General Electives and/or Minor.

Liberal Studies provides broad learning experiences in art, science, English, mathematics, and the behavioral sciences. The courses taken in Major Studies depend on the concentration chosen. The four concentrations from which a student may select are: Foods/Equipment, Food Science, Consumer Affairs or Interior Decorating. The number of elective credits varies depending on the number of credits required to complete the concentration. These electives can be used to expand knowledge in an area of interest, explore selected disciplines or to complete a Minor.

The Home Economics in Business program prepares individuals for various careers in business and public service in areas such as public relations, banking and finance, sales, food processing, home equipment manufacturing, journalism and interior decoration.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	128 credits
Required in general studies -----	64-68 credits
Required in major studies (depending on concentration) -----	38-56 credits
Electives or minor-----	5-26 credits

PROGRAM REQUIREMENTS

GENERAL STUDIES—64-68 credits required

Course	Credit
391-100, Fundamentals of Speech -----	2
326-101 or 326-111, Freshman English: Composition -----	3
326-102 or 326-112, Freshman English: Reading and Related Writing -----	3
366-xxx or 367-xxx, Any Physical Education course -----	1
Utilization of oral symbols-----	7
Utilization of written symbols-----	5
Utilization of numerical symbols -----	4
Understanding the psychological/sociological nature of man -----	6
Understanding the economics aspects of the American business/industrial system -----	3
Understanding the management organization aspects of business/industry -----	14
Understanding man's inherent physical nature and/or his environment-----	2-5
Understanding the creative/rational aspects of man -----	6

Understanding and appreciating the historic/socio-cultural/ political aspects of man -----	6
Understanding the philosophical ethical aspects of man -----	2-3

MAJOR STUDIES—Courses will be selected according to concentration(s) chosen.

CONCENTRATIONS—39-56 credits required

To complete the program, a student selects one or more concentrations.
Four concentrations are available:

FOODS/EQUIPMENT

110-204 Electricity	245-655 Major Kitchen Appliances
170-280 Packaging Fundamentals	245-656 Microwave Oven
229-240 Food Science	245-658 Experimental Laundry Procedures
229-212 Nutrition	308-306 General Microbiology must be taken under General Task, Science 2-5 credit area.
229-308 Meal Management	308-506 Food Microbiology
229-446 Food Preservation	311-115 Introductory College Chemistry/Lab or
229-638 Experimental Foods	311-135 College Chemistry/Lab
229-642 Advanced Foods	311-201 Organic Chemistry
229-661 Social and Cultural Aspects of Food	311-203 Organic Chemistry/Lab
245-211 Quantity Food Production	
245-250 Family Housing	
245-355 Home Equipment Opera- tional Principles	
245-521 Food Service Equipment	

FOOD SCIENCE

150-200 Production Management	311-511 Biochemistry
150-520 Quality Assurance	311-515 Food Chemistry
229-212 Nutrition	311-531 Quantitative Analysis
229-410 Advanced Nutrition	311-535 Instrumental Methods of Analysis
229-240 Food Science	Recommended under General Task Area
229-638 Experimental Foods	354-130 Elementary Statistics
229-642 Advanced Foods	354-140 Computer Concepts
245-211 Quantity Food Production	308-306 General Microbiology must be taken under General Task, Science 2-5 credit area.
308-506 Food Microbiology	
311-115 or 311-135 Inorganic Chemistry/Lab	
311-201 Organic Chemistry	
311-203 Organic Chemistry/Lab	

CONSUMER AFFAIRS

160-207 Principles of Accounting II	229-124 Foods
160-370 Principles of Advertising	229-212 Nutrition

229-308 Meal Management	245-565 Consumer Aspects of Life Insurance
229-446 Food Preservation	245-566 Health Insurance
229-606 Nutrition Education	245-650 Human Habitat
229-633 Maternal and Child Nutrition	245-656 Microwave Oven
242-201 Teaching Techniques	245-660 Consumer Credit
245-250 Family Housing	245-662 Consumer Protection
245-275 Management of Family Resources	245-663 Consumer Law
245-355 Home Equipment Operational Principles	320-350 Money and Banking
245-360 Consumer Economics	320-445 Public Finance
245-436 Lighting for Residential Interiors	479-579 Public Relations

INTERIOR DECORATING

170-241 Machine Woodworking	214-693 Structural Design and Weaving
170-250 Plastics I	214-695 Historic and Contemporary Fabrics
214-140 Textiles*	304-100 Drawing*
130-110 Drafting	304-101 Fundamentals of Design*
130-180 Hospitality, Living and Institutional Facility Planning*	304-513 Ceramics
130-221 Architectural Design I	304-515 Art Metal
130-325 Architectural Design II	304-202 Introduction to Art*
170-270 Light Building Construction I	304-522 Modern Art
170-372 Heating and Air Conditioning	304-523 Survey of Art: Ancient Through Medieval
245-355 Home Equipment Operational Principles	304-524 Survey of Art: Renaissance through 20th Century
245-436 Lighting for Residential Interior	304-525 Egyptian and Mesopotamian Art
304-204 Interior Designs*	304-526 Greek and Roman Art
304-205 Problems in Interior Design*	304-527 Medieval Art
304-533 Period Furnishings*	304-528 Italian Renaissance Art
245-650 Human Habitat	304-529 Northern Renaissance Art
245-330 Ecology of the Home (308-150)	304-530 Northern Baroque Art
245-531 Ecology of the Habitat	304-531 Southern Baroque Art
245-250 Family Housing	305-600 18th Century European Art
245-681 Special Problems in Habitational Resources	304-601 Pre-Columbian Art
214-592 Practicum in Textile Print	304-602 American Art
214-590 Practicum in Textile Design	304-603 19th Century Art in Europe
214-690 Advanced Textile Design-Stitchery	304-604 Art Since 1950
	304-605 Oriental Art
	304-606 Oriental Art
	*Required Courses

ELECTIVES—5-26 credits required**HOME ECONOMICS EDUCATION**

Although work in Home Economics Education opens many job opportunities, the greatest number of positions available to graduates with a Bachelor of Science degree in Home Economics Education are in secondary education, extension education and curriculum development in business and industry.

Home economics at the elementary, secondary and post-secondary level has been changing and will continue to change. One of the most apparent changes in the public schools is the offering of semester courses in substantive areas rather than integrated generalized offerings. Home economics teachers must be prepared to teach all areas in a one-teacher department, but the multi-teacher departments allow specialization. The number of single teacher home economics departments is decreasing and the number of multi-teacher departments increasing.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation----- 135 credits
 Required in liberal studies----- 44 credits
 Required in major studies ----- 54 credits
 Required in professional education ----- 27 credits
 Electives ----- 10-11 credits
2. There are four planning systems which encourage individualized education and allow for maximum flexibility within the guidelines for a certifiable program of 135 credits. When planning the sequence of experiences leading to the Bachelor of Science degree with a major in Home Economics Education, the student should select and organize the classes within one of four planning systems. Depending on the program selected by the student, elective credits can be used to obtain a minor (22 credits) or concentration (10-18 credits) within a certain area. A combination of a minor and a concentration is also possible, but may require additional time beyond the usual four years.
3. To qualify for student teaching, the candidate must fulfill the English adequacy, the speech proficiency and the health requirements and must have a minimum cumulative grade point average of 2.25.
4. Concentrations:

APPAREL, TEXTILES AND DESIGN - Preparation for teaching semester or occupation-oriented courses at secondary and post-secondary levels.

AVOCATIONAL INTERESTS - Preparation for employment in schools, community programs, craft schools, workshops, campus, hospitals, special projects

for the aged and other interest groups related to Home Economics knowledge and skills.

CAREER DEVELOPMENT - Provides teachers wider employment opportunities in working with Career Development either at secondary level or as an elementary consultant.

CONSUMER EDUCATION - Preparation for teaching semester courses and gives greater depth in teaching a comprehensive program.

EXTENSION AND COMMUNITY SERVICES - Preparation for employment in cooperative extension education and teaching in varied community programs.

FAMILY LIFE AND CHILD DEVELOPMENT - Preparation for teaching specialized courses at elementary, middle, secondary and post-secondary levels. Fulfills one of the greatest contemporary needs in education. Opportunities open for both men and women.

FOOD SERVICE AND NUTRITION - Popular with both men and women. Preparation for teaching semester or occupational-oriented courses at secondary and post-secondary levels.

HABITAT, EQUIPMENT AND MANAGEMENT - Preparation of men and women to teach semester courses or become employed in business and industry. Leads to further graduate work.

INDIVIDUALLY DESIGNED - The student in consultation with the program adviser design the concentration to meet individual needs.

MIDDLE SCHOOL - Certifiable program for teaching Home Economics in the middle school.

OCCUPATIONAL-ORIENTED EDUCATION - Preparation of men and women to teach occupation-oriented programs in secondary and post-secondary schools.

REHABILITATION - Provides opportunities of employment for teaching Home Economics to the handicapped.

SPECIAL FIELDS - Certifiable program for education of the slow learner in Home Economics.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—44 credits required

Course	Credit
304-xxx, Art elective -----	3
308-132, Physiology and Anatomy -----	4
311-115, Introductory College Chemistry or -----	5
311-135, College Chemistry I -----	5
320-201, General Economics -----	3
326-101 or 326-111, Freshman English -----	3

326-102 or 326-112, Freshman English-----	3
326-xxx, English elective-----	3
367-1xx, Physical Education elective-----	2
387-110, Introductory Sociology or-----	3
303-220, Introduction to Cultural Anthropology-----	3
391-100, Fundamentals of Speech-----	2
479-110, General Psychology-----	3
Select any 3-credit course in History or Government-----	3
Liberal Studies electives-----	7

MAJOR STUDIES—54 credits required

212-264, Child Guidance-----	2
212-124, Child Development I-----	3
212-250, Family Relationships I-----	3
212-350, Family Relationships II-----	3
212-xxx, Family Life elective-----	1
214-110, Principles of Apparel Design-----	1
214-140, Textiles I-----	3
214-266, Apparel Construction-----	3
214-109, Applied Design for Family Living-----	2
229-124, Foods-----	4
229-212, Nutrition-----	3
229-308, Meal Management-----	3
245-275, Management of Family Resources-----	3
245-250, Family Housing-----	3
245-360, Consumer Economics-----	3
245-xxx, Any Equipment Course-----	2-3
Major Studies electives (minimum)-----	12

PROFESSIONAL EDUCATION—24-27 credits required

242-241, Clinical Experience in the Community-----	1
242-101, Experiential Learning in Home Economics-----	1
242-201, Teaching Techniques in Home Economics-----	2
242-240, Clinical Experiences in Micro-Teaching-----	1
242-341, Clinical Experiences in Schools-----	1
242-301, Home Economics Curriculum-----	3
242-443, Clinical Seminar in Home Economics Education----	2
242-444, Practicum in Teaching Home Economics or-----	6
242-488, Internship Teaching-----	8
413-501, Introduction to Guidance or-----	2
421-590, Mental Health in Schools-----	2
421-303, Educational Psychology or-----	2
421-422, Principles of Secondary Education-----	2
421-630, Mainstreaming Special Students-----	3
421-682, Reading Methods-Secondary School-----	2

ELECTIVES—11-13 credits required from courses offered at Stout or those approved for transfer.

HOME ECONOMICS GENERAL

The Home Economics General program serves a dual purpose: it provides a temporary major for the student who is undecided which of the nine career-specific programs to choose; it provides a degree granting program for the Home Economics student who shows high leadership potential and who is not concerned with a curriculum designed to meet career-specific needs.

GENERAL REQUIREMENTS—TEMPORARY MAJOR

A student who is undecided about which program to choose works with an adviser from the School of Home Economics in selecting course work. The student must select a career-specific program before the end of the sophomore year.

GENERAL REQUIREMENTS—B.S. DEGREE PROGRAM MAJOR:

Each student admitted to pursue the degree program will plan an individualized curriculum. The student will be admitted to Home Economics General. At the end of a year and a half, the student will be eligible to apply for admittance to the degree program. The student will fill out a formal application which will be reviewed by the Program Director and the Home Economics General Program Committee. Each student applicant will be interviewed by the committee. The committee will decide which applicants will be admitted to the degree program.

Total for graduation-----	128 credits
Required in liberal studies-----	50 credits
Required in major studies-----	44 credits
Required in leadership component-----	10 credits
Electives and/or minor-----	24 credits

LIBERAL STUDIES—50 credits required-----

391-100, Fundamentals of Speech-----	2
326-101, 102, English-----	6
355-xxx, Math-----	4

(Required only if high school background did not include two years of college-oriented math.)

Select the remaining credits 38-42 from the following categories:

Humanities 8-10 credits. Choose from the following: English Literature, Foreign Language (Literature), History, Art History and Art Appreciation, Music Appreciation or Theory, Philosophy, and Introduction to Theater.

Natural Sciences and Mathematics 8-10 credits. Choose from the following: Biology, Chemistry, Mathematics, and Physics.

Social Sciences 12-14 credits. Choose from the following: Anthropology, Economics, Political Science, Psychology, and Sociology.

Arts 8-10 credits. Choose from the following: Art, Advanced and Creative Writing, Music (performance courses), Modern Dance, and Speech (Oral Interpretation and Theater).

MAJOR STUDIES—44 credits required

Family is the central concern of all Home Economists. The knowledge and skills developed in Home Economics courses can be conceptualized by examining the family and its immediate physical environment in a tangible, dynamic context. Course work for this component is described in terms of People, Habitat and Interaction:

People—The study of individuals and their development in families as discussed in applied course work that builds on knowledge gained in General Education courses. Course work dealing with family formation, development of children, adult development, family structure and family roles would be appropriate.

Habitat—The study of the material context of family life—food, textiles, furnishings, housing, and equipment. Course work on the immediate physical environment—territories, food, textiles, furnishings, equipment, housing and their relationship to the larger environment would be appropriate.

Interaction—The study of action and reactions that constitute the process of interaction between family members and the near environment. Course work in family relationships, decision-making and conflict resolution, leisure, work and ceremonial or symbolic events.

LEADERSHIP COMPONENT—10 credits required

Students are required to select one course from Groups A, B, and C and both courses in Group D.

(A) Understand the Characteristics of Individuals and Groups

212-535, Seminar on Self-Growth ----- 2

387-250, Social Psychology----- 3

(B) Utilize Communication Skills

326-515, Technical Writing for Home Economics ----- 3

391-200, Persuasive Speaking----- 2

391-208, Theory of Communication ----- 2

391-508, Speech Skills for Business and Industry----- 3

391-206, Discussion----- 2

(C) Utilize Leadership Techniques

391-204, Techniques of Group Leadership ----- 2

479-570, Assertiveness Training Procedures----- 2

500-100, Applied Student Leadership----- 2

150-600, Organizational Leadership ----- 3

300-225, Creative Problem Solving----- 2

(D) Demonstrate Leadership in Home Economics

200-199, Home Economics Futures ----- .5

200-299, Independent Study in Home Economics ----- 1-2

ELECTIVES AND/OR MINOR—24 credits required**HOTEL AND RESTAURANT MANAGEMENT**

Hotel and Restaurant Management is one of America's fastest growing industries. Each year, the amount of leisure time increases for thousands of Americans, and with that increase, comes a growing demand on the hospitality industry. As existing lodging and dining facilities expand, new businesses are being started to accommodate more and more people who want new and better hospitality services.

Stout's specialized mission enables Hotel and Restaurant Management majors to receive a variety of training. The four-year curriculum is structured to allow for both practical and theoretical training, giving students specific skills needed to have successful management careers. The program also provides studies in the liberal arts to give graduates a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society.

GENERAL REQUIREMENTS—B.S. DEGREE:

- | | |
|--|---------------|
| 1. Total for graduation----- | 130 credits |
| Required in liberal arts----- | 46 credits |
| Required in professional studies----- | 72-73 credits |
| Electives in professional studies----- | 6 credits |
| Electives----- | 6 credits |
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
 3. Work experience must be obtained through participation in the Field Experience program during the junior year and/or the summer between the junior and senior year. A minimum of 2 credits for 320 hours of approved work experience is required.
 4. Students must attain a grade of "C" or better in each of the courses within the professional studies. In order for transfer courses to be accepted in the program, this same grade requirement must be met.

PROGRAM REQUIREMENTS**LIBERAL ARTS**—46 credits required

Course	Credit
320-210, Principles of Economics I-----	3
326-101, Freshman English: Composition-----	3
326-102, Freshman English: Reading and Related Writing---	3
355-120, Introduction to College Mathematics I, or-----	4

Any higher level course	
366, 367, Any Health or Physical Education -----	2
375- Any Political Science -----	3
391-100, Fundamentals of Speech -----	2
Select 5 credits from the following (must include one lab experience)-----	5
308- Biology	
311- Chemistry	
372- Physics	
Select three credits from the following-----	3
479-110, General Psychology	
479-150, Man: A Course of Study	
479-281, Environmental Psychology	
Select three credits from the following-----	3
212-250, Family Relationships I	
303-220, Introduction to Cultural Anthropology	
387-110, Introductory Sociology	
Select 9 credits from at least two of the following areas -----	9
304- Art History	
304- Art (non-performance)	
326- Literature	
338- History	
360- Music (non-performance)	
365- Philosophy or Logic	
500- Interdisciplinary Studies	
Select 6 credits from the following areas-----	6
304- Art (performance)	
326- Writing	
328, 329 Foreign Language	
360- Music (performance)	
367- Dance	
391- Theatre (performance and non-performance)	
391- Speech	
Select 6 credits from any department within the University (may not duplicate courses used in other sections of this program)	

PROFESSIONAL STUDIES*—78-79 credits required

Operational Management: (50 credits)

130-180, Hospitality, Living and Institutional Facility Planning-----	2
150-450, Maintenance Management -----	2
160-318, Business Law -----	3
229-124, Foods-----	4
229-308, Meal Management -----	3
245-100, The Role of Management in the Hospitality Industry -----	2
245-201, Hospitality Housekeeping Management -----	2
245-202, Front Office Management -----	3
245-222, Institutional Food Purchasing-----	2

245-240, Introduction to Tourism and the Travel Industry ---	2
245-301, Bar Management -----	2
245-311, Quantity Food Production -----	3
245-312, Restaurant Operational Management -----	3
245-340, Development of Tourism Attractions-----	3
245-344, Hospitality Marketing and Sales-----	3
245-498, Field Experience -----	2
245-515, Lodging Administration -----	3
245-625, Hospitality Industry Law and Liability -----	3
308-206, Food Service and Environmental Sanitation-----	1
*Grade Requirement—All courses in Professional Studies require a grade of “C” or better. It is recommended that an “F” or “D” be repeated the following semester.	

Personnel Management: (10-11 Credits)

245-205, Hospitality Organization Management-----	3
245-600, Integrated Management Systems-Hospitality -----	2
245-626, Employee and Labor Relations in the Hospitality Industry or	
320-420, Labor Economics-----	2
479-582, Personnel Management -----	3

Financial Management: (12 Credits)

160-206, Principles of Accounting I-----	3
245-370, Hotel and Restaurant Accounting-----	3
245-371, Food, Beverage and Labor Cost Controls-----	3
245-670, Hospitality Industry Financial Analysis, Budgeting and Forecasting -----	3
Select 6 credits from the following: (cannot duplicate other sections)-----	6

130- Any Architectural Design	
160- Any Business Administration	
229- Any Food and Nutrition	
245- Any Habitational Resources (Hotel and Restaurant Management area)	
354- Any Computer Course	
479-579, Public Relations-----	2

SCHOOL OF LIBERAL STUDIES

Dr. Gerane T. Dougherty, Dean

Programs:

Applied Mathematics
Art
Art Education

APPLIED MATHEMATICS

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's needs is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics.

The program in Applied Mathematics provides: (1) a strong foundation in academic mathematics; (2) computational concepts and techniques in computer science, statistics and mathematical models; (3) experiences in areas where mathematics, computers and/or statistics are utilized; and (4) a broad offering of liberal arts courses.

At the completion of the freshman year or after entering the Applied Mathematics program, all students prepare and submit a tentative plan or guide for their undergraduate program. This plan is developed through consultation with an academic adviser and the Program Director. The ultimate plan is developed to meet the student's professional objectives and goals through the appropriate selection of courses within the major studies and the desired related area in which mathematics, computers and/or statistics are used.

Off-campus work in an approved position using computer and/or statistical techniques in the analysis and solution of real world problems is a valuable option within this major. Students receive salaried appointments and course credits. This experience can be included within the program and completed during the junior or senior year. The duration of the experience is for periods of a summer or a summer plus one semester.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies-----	50 credits
Required in major studies-----	53 credits
Required in sub-major-----	18 credits
Electives-----	9 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—50 credits required

Course	Credit
326-101 and 102 or 326-111 and 112, and 326-516, English---	9
367-1xx, Physical Education-----	2
391-100 and 508, Speech-----	4
<i>Select at least 6 credits from the following:</i>	
308-520, Comparative Ethology I-----	2
365-201 or 550, Philosophy-----	3-6
387-110 or 250, Sociology-----	3-6
479-110, Psychology-----	3

Select at least 6 credits from the following:

338-xxx, History -----	3-6
320-210, 215 or 420, Economics -----	3-6
375-210, 310, Government -----	3-6

Select at least 3 credits from the following:

304-xxx, Art -----	2-3
326-xxx, Literature-----	3
360-xxx, Music-----	2-3
391-xxx, Theatre-----	2-3

Select at least 10 credits from the following:

308-xxx, Biology* -----	3-10
311-xxx, Chemistry* -----	5-10
372-xxx, Physics* -----	5-10

*Non-laboratory courses will be allowed only by special permission.

FOUNDATIONAL MATHEMATICS (31 credits min.)

Select 8-16 credits from the following in analytical techniques:

355-153, 154, 158, Calculus I, II and III -----	11
355-156 and 157, Calculus and Analytic Geometry I and II --	10
355-255, Differential Equations -----	3

Required courses in algebraic techniques:

355-275, Linear Algebra -----	3
355-370, Modern Algebra I -----	3

Select 6 credits from the following theoretical analysis:

355-450 and 451, Real Analysis I and II -----	6
355-460, Complex Variables -----	3

Select from the following electives:

355-262, Modern Geometry-----	3
355-371, Modern Algebra II -----	3

COMPUTATIONAL MATHEMATICS (22 credits min.)

Select at least 3 credits from the following in statistical methods:

354-530, Statistical Methods-----	3
354-531 and 532, Design of Experiments I and II -----	4

Select at least 3 credits from the following in statistical theory:

354-331 and 332, Probability and Mathematical Statistics I and II-----	6
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Select at least 2 credits from the following in computer languages:

354-141, Digital Computer Programming -----	2
354-241, Assembly Language Programming -----	2
354-246, Computer Programming—COBOL -----	3
354-590, Topics (Computer Science)-----	2

Select at least 3 credits from the following in computer methods:

354-240, Intermediate Computer Programming-----	3
---	---

354-245, Numerical Methods -----	2
354-341, Data Structures -----	3
354-441, 442, Computer Arch. and Operating Systems I and II -----	6
354-445, Numerical Analysis -----	3
<i>Required courses in Mathematical Modeling:</i>	
354-490 and 491, Mathematical Models I and II -----	4

SUB-MAJORS IN RELATED AREAS (18 credit min.)

Each student selects a sub-major where he or she can use mathematics, computers and/or statistics to develop and enhance the ability to solve problems in his or her area of interest. The area of interest can be chosen from the following sub-majors: Applied Physics, Applied Research, Architectural Design, Business Management, Electronics, Food Production Quality Control, Industrial Management, Mechanical Design, and Numerical Control. The selecting of a sub-major is made at the time a student completes his or her program guide plan.

INTERNSHIP OPTION

354-475, Applied Mathematics Internship -----	2-8
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ELECTIVES

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, Physics, Chemistry, Biology, Computer Science or Speech. It is the student's responsibility to obtain approval for the minor from the department offering it.

ART

The Art program includes four concentrations: Studio Art, Industrial Design, Interior Design and Graphic Design. The curriculum provides students with experiences in studio work, art history, professional studies and liberal studies. It offers basic and broad experiences for those who wish to pursue goals in higher education or in specific design fields. The program entails extensive work in major studio and professional areas which provide the needed breadth of experience during the freshman and sophomore years. It permits numerous elective courses during the junior and senior years and enables students to become involved in-depth with a concentrated area of their choice. Students enjoy flexibility in determining a program suitable to their interests. Elective courses may be made from course offerings in other departments.

The art history and liberal studies requirements, considered essential for the education of the Art major, are also elective in nature with broad offerings in both areas. A 2.25 grade point is necessary for graduation. Students earn a Bachelor of Science degree upon successful completion of the program. All Stu-

dio Art majors are required to present an exhibition of their work during their senior year. All Design Art majors are required to present a portfolio of their work.

GENERAL REQUIREMENTS—B.S. DEGREE: Studio

Total for graduation-----	132 credits
Required in liberal studies-----	56 credits
Required in major studies-----	76 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—56 credits required

Course	Credit
304-522, History of Modern Art-----	3
304-607, Esthetics (Senior Year)-----	3
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors-----	
326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors-----	
326-250, Classical and Biblical Literature in Translation-----	3
355-xxx, Math (Elective may be substituted if proficiency is exhibited to Math Dept. through testing or background)-----	4
366-xxx, Health-----	1
367-xxx, Physical Education-----	2
391-100, Fundamentals of Speech-----	2
<i>Select 9 credits from Humanities choosing from at least two areas: 326-xxx Literature, 328- or 329-xxx Foreign Language, 365-xxx Philosophy or 338-xxx History.</i>	
<i>Select 9 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropol- ogy, or 336-xxx Geography.</i>	
<i>Select 8 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry or 372-xxx Physics.</i>	
<i>Select 6 credits from Liberal Studies Electives from the above categories. Note: 479-110 General Psychology may be accepted as a Liberal Studies Elective.</i>	

MAJOR STUDIES—76 credits required

304-100, Drawing-----	3
304-101, Fundamentals of Design-----	3
304-145, Practice of Art-----	2
304-500, Drawing (Adv.)-----	3
304-501, Life Drawing-----	3
304-502, Life Drawing (Adv.)-----	3
304-509, Painting-----	3
304-510, Painting (Adv.)-----	3

304-511, Sculpture-----	3
304-512, Sculpture (Adv.) -----	3
304-513, Ceramics-----	3
304-514, Ceramics (Adv.)-----	3
304-515, Art Metal-----	3
304-516, Art Metal (Adv.)-----	3
304-517, Printmaking-----	3
304-518, Printmaking (Adv.)-----	3
304-545, Senior Seminar-----	1

(Any two advanced studies (Adv.) may be deleted except 304-500.)

Art Studio Selective: In completing this group, the student must take a minimum of 9 credits in a chosen area beyond the "advanced" level. This establishes a "concentration" which the student must declare to an adviser at the end of the fourth semester of study.

Art History: Select 15 credits from any Art History offering.

GENERAL REQUIREMENTS— B.S. DEGREE: INDUSTRIAL DESIGN

Total for graduation-----	132 credits
Required in liberal studies-----	54 credits
Required in major studies-----	72-77 credits
Electives-----	1-6 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—54 credits required

Course	Credit
304-319, Evolution of Design-----	3
304-522, History of Modern Art-----	3
320-201, General Economics or-----	3
320-210, Principals of Economics I-----	
326-101, Freshman English: Composition or-----	3
326-111, Freshman English: Honors-----	
326-102, Freshman English: Composition or-----	3
326-112, Freshman English: Honors-----	
354-140, Computer Concepts or-----	2
354-141, Digital Computer Programming-----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to the Math Department through testing or background)-----	4
366-xxx, Health-----	1
367-xxx, Physical Education-----	2
391-100, Fundamentals of Speech-----	2
479-110, General Psychology or-----	3
479-632, Perception-----	

Select 12 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.

Select 6 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropology, or 336-xxx Geography.

Select 7 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry, 372-xxx Physics.

MAJOR STUDIES—72-77 credits required

Technical Courses	Credit
130-110, Drafting-----	2
130-311, Technical Drafting -----	3
170-101, Processes and Concepts -----	3

Technical Selectives—10-15

Select any five courses from:

100-500, Future Studies-----	2
110-587, Human Factors Engineering -----	3
130-140, Graphic Arts-----	2
130-221, Architectural Design I-----	3
150-304, Principles of Business-----	3
170-202, Metals -----	2
170-250, Plastics -----	2
170-280, Packaging Fund-----	2
600-504, Photography -----	2

Others approved by adviser prior to enrolling.

Select five courses from the following:

304-101, Fundamentals of Design-----	3
304-100, Drawing-----	3
304-500, Drawing (Adv.) -----	3
304-503, Advanced Designs-----	3
304-305, Presentation Techniques -----	3
304-511, Sculpture-----	3
304-300, Design, Theory and Methods-----	3
304-330, Industrial Design I -----	3
304-340, Industrial Design II -----	3
304-430, Industrial Design III -----	4
304-440, Industrial Design IV -----	4
304-310, Graphic Design I -----	3
304-360, Graphic Design II -----	3
304-315, Evolution of Design or -----	3
304-320, Furniture Design-----	
304-432, Portfolio Development -----	1

Select at least nine credits from two areas:

304-500, Drawing; 304-501, Life Drawing; 304-509, (or 510) Painting; 304-511, (or 512) Sculpture; 304-513, (or 514) Ceramics; 304-515 (or 516), Art Metal; 304-517 (or 518), Printmaking.

Select sufficient electives to meet the 132-credit degree requirements.

GENERAL REQUIREMENTS—B.S. DEGREE: INTERIOR DESIGN

Total for graduation-----	132 credits
Required in liberal studies-----	56 credits
Required in major studies-----	70-74 credits
Electives-----	2-6 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—56 credits required

Course	Credit
304-319, Evolution of Design-----	3
304-522, History of Modern Art-----	3
304-533, Period Furnishings-----	3
320-201, General Economics or-----	3
320-210, Principles of Economics I-----	
326-101, Freshman English: Composition or-----	3
326-111, Freshman English: Honors-----	
326-102, Freshman English: Composition or-----	3
326-112, Freshman English: Honors-----	
326-250, Classical and Biblical Literature in Translation-----	3
326-351, European Literature in Translation-----	3
355-xxx, Math (Elective may be substituted if proficiency is exhibited to the Math Dept. through testing or background)-----	4
366-xxx, Health-----	1
367-xxx, Physical Education-----	2
391-100, Fundamentals of Speech-----	2
479-110, General Psychology or-----	
479-632, Perception-----	3
<i>Select nine credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.</i>	
<i>Select six credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropol- ogy, or 336-xxx Geography.</i>	
<i>Select eight credits from Natural Sciences including at least one lab course: 308- xxx Biology, 311-xxx Chemistry, or 372-xxx Physics.</i>	

MAJOR STUDIES—70-74 credits required

Technical Courses—10 credits	Credit
130-110, Drafting-----	2
130-221, Architectural Drafting I-----	3
170-270, Building Construction-----	2
214-140, Textiles I-----	3

Technical Selectives—8-12

Select four courses from the following:

245-250, Family Housing -----	3
245-455, Kitchen Planning -----	2
130-325, Architectural Design II-----	3
130-180, Hospitality Living and Institutional Facility Planning-----	2
214-695, Historic and Contemporary Fabrics -----	3
150-304, Principles of Business -----	3
170-301, Technology-Resources and Environment -----	2
214-590, Practicum in Textile Design-----	3
600-504, Photography -----	2
354-141, Digital Computer Programming or 354-140, Computer Concepts-----	2
245-436, Residential Lighting-----	2

Design—42 credits

304-100, Drawing-----	3
304-101, Fundamentals of Design -----	3
304-204, Interior Design -----	3
304-205, Problems in Interior Design-----	2
304-305, Presentation Techniques -----	3
304-315, Environmental Design I-----	3
304-316, Environmental Design II-----	3
304-320, Furniture Design-----	3
304-431, Symposium-----	2
304-451, Practicum-----	3
304-500, Drawing (Adv.) -----	3
304-503, Advanced Design -----	3
304-511, Sculpture or-----	3
304-513, Ceramics-----	
304-532, Economics of Home Furnishings -----	3

Select at least 12 credits from two areas:

304-500, Drawing (Adv.); 304-501, Life Drawing; 304-511, (or 512) Sculpture;
 304-513, (or 514) Ceramics; 304-509, (or 510) Painting; 304-515, (or 516) Art
 Metal; 304-517, (or 518) Printmaking.

Select sufficient electives to meet the 132-credit degree requirement.

GENERAL REQUIREMENTS—B.S. DEGREE: GRAPHIC DESIGN

Total for graduation-----	132 credits
Required in liberal studies-----	54 credits
Required in major studies -----	72-75 credits
Electives -----	3-6 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—54 credits required

Course	Credit
304-319, Evolution of Design-----	3
304-522, History of Modern Art-----	3
320-201, General Economics or-----	3
320-210, Principles of Economics-----	
326-101, English Composition or-----	3
326-111, Honors English -----	
326-102, English Composition or-----	3
326-112, Honors English -----	
354-140, Computer Concepts or -----	2
354-141, Digital Computer Programming -----	
355-xxx, Math (Elective may be substituted if proficiency is exhibited to Math Department through testing or background)-----	4
366-xxx, Health -----	1
367-xxx, Physical Education -----	2
391-100, Fundamentals of Speech -----	2
479-110, General Psychology or -----	3
479-632, Perception -----	
<i>Select 12 credits from Humanities choosing from at least two areas:</i>	
326-xxx Literature, 328-xxx Foreign Language (minimum two semesters in same language), 338-xxx History, 365-xxx Philosophy.	
<i>Select 6 credits from Social Sciences choosing from at least two areas:</i>	
303-xxx Anthropology, 375-xxx Political Science, 387-xxx Sociology.	
<i>Select 7 credits from Natural Sciences (one must be a laboratory course):</i>	
308-xxx Biology, 311-xxx Chemistry, 372-xxx Physics.	

MAJOR STUDIES—72-75 credits required

Technical Courses	Credit
130-140, Graphic Arts-----	2
170-280, Packaging Fundamentals -----	2
600-504, Elementary Photography -----	2
<i>Select four courses from the following:</i>	
100-500, Future Studies-----	2
130-355, Line and Halftone Photo -----	2
130-366, Image Transfer-----	3
150-370, Principles of Advertising-----	3
479-579, Public Relations-----	2
600-605, Advanced Photography -----	2
600-630, T.V. or Film -----	3
600-645, Color Photography-----	2
 Graphic Design Courses	
304-100, Drawing-----	3

304-101, Fundamentals of Design -----	3
304-210, Letter Form Design -----	3
304-300, Design Theory and Methods -----	3
304-310, Graphic Design I -----	3
304-360, Graphic Design II -----	3
304-380, Signage and Exhibit Design -----	3
304-500, Drawing (adv.) -----	3
304-501, Life Drawing -----	3
304-503, Advanced Design -----	3
304-480, Packaging and Production Graphic -----	3
304-xxx, Senior Project -----	4

Select any three from the following totaling nine credits (NOTE: begin sequence second semester freshman year.): 304-502 Life Drawing (adv.), 304-509 Painting, 304-510 Painting (adv.), 304-517 Printmaking, 304-518 Printmaking (adv.).

Select 12 credits from the following Art Studio courses: 304-xxx Sculpture, 304-xxx Ceramics, 304-xxx Art Metals, 304-500 Drawing (adv.), 304-502 Life Drawing, 304-505 Presentation Techniques, 304-510 Painting, 304-518 Printmaking, xxx-xxx, Other: approved by adviser previous to enrolling.

ELECTIVES—3-6 credits required (sufficient credit to total 132).

ART EDUCATION

The Art Education program offers a curriculum designed to provide a broad experience in studio areas, art history and liberal studies, as well as appropriate experience in Art Education. Much of the program is of an elective nature, permitting the individual to develop a course of study suitable to personal needs and to gain depth in areas of one's interest.

Students must decide by their junior year which program to pursue. The education curriculum is taken at this time. Art Education methods courses and student teaching are taken concurrently and comprise a full semester's study during the senior year.

There is now an optional 11 credit concentration in Special Education for those students who wish to add Special Education in Art to their core Art Education program of 132 credits.

Successful completion of the Art Education program qualifies the graduate for certification by the State Department of Public Instruction for teaching and supervision in elementary and secondary schools. A 2.25 overall grade point average and a 2.5 grade point average in Art Department courses are required for admission to student teaching. Students who complete the program receive a Bachelor of Science degree. All Art Education majors are required to present an exhibition of their work during their senior year.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	132 credits
Required in liberal studies-----	47 credits
Required in major studies-----	57 credits
Required in professional studies-----	28 credits

PROGRAM REQUIREMENTS**LIBERAL STUDIES—47 credits required**

Course	Credit
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors-----	
326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors-----	
326-250, Classical and Biblical Literature in Translation -----	3
391-100, Fundamentals of Speech-----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to Math Dept. through testing or background)-----	4
479-110, General Psychology-----	3
366-xxx, Health-----	1
367-xxx, Physical Education-----	1
304-522, History of Modern Art-----	3
304-607, Esthetics (Senior Year)-----	3
<i>Select 6 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.</i>	
<i>Select 9 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropol- ogy or 336-xxx Geography.</i>	
<i>Select 6 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry or 372-xxx Physics.</i>	

MAJOR STUDIES—57 credits required

304-100, Drawing-----	3
304-101, Fundamentals of Design-----	3
304-145, Practice of Art-----	2
304-500, Drawing (Adv.)-----	3
304-501, Life Drawing-----	3
304-509, Painting-----	3
304-510, Painting (Adv.)-----	3
304-511, Sculpture-----	3
304-512, Sculpture (Adv.)-----	3
304-513, Ceramics-----	3
304-514, Ceramics (Adv.)-----	3
304-515, Art Metal-----	3
304-516, Art Metal (Adv.)-----	3
304-517, Printmaking-----	3

304-518, Printmaking (Adv.)-----	3
304-545, Senior Seminar -----	1
(One advanced studio may be deleted from above except 304-500)	
Art Oriented Studio Electives -----	9
Art History—Select 9 credits from any Art History offering.	

PROFESSIONAL STUDIES—28 credits required

304-208, Pre-Teaching Seminar (Sophomore Year) -----	3
305-311, Curriculum Development -----	2
421-303, Educational Psychology -----	2
421-422, Principles of Secondary Education -----	2
431-630, Mainstreaming Special Students -----	3
421-682, Reading Methods -----	2
The following courses are taken in the same semester.	
305-402, Introduction to Teaching Art-Elementary -----	3
305-403, Introduction to Teaching Art-Secondary -----	3
305-408, Student Teaching Art - Elementary -----	4
305-409, Student Teaching Art - Secondary -----	4

SCHOOL OF EDUCATION

Dr. David A. Sabatino, Dean

Programs:

Psychology
Vocational Rehabilitation

PSYCHOLOGY

Psychology, as a program, is the systematic study of behavior, particularly the behavior of individuals—their actions, reactions and cognitions. It has as its overriding goal the preparation of students to contribute to the improved condition of man. Students acquire competencies that lead to employment wherever psychology is applied in educational institutions, public and private agencies, business and industry. Students entering the program should realize that they must obtain graduate level education or other advanced training before they will be accepted as professional psychologists.

The Psychology Program is flexible. Students are given the opportunity to develop a personal program plan centered around their individual needs and goals. With careful planning, students may include self-planned concentrations in their programs in such diverse areas as biofeedback technology, human services, family issues, industrial psychology, and many others. As well, students may elect to pursue a course of study that can lead to certification as a psychology teacher at the secondary school level. All students are expected to include a core of study in the fundamental principles of human behavior in their programs and each is expected to develop literacy in the arts, humanities, natural sciences, and social sciences. Each student is also expected to develop and demonstrate effective communication skills as a part of the program's requirements.

After entering the Psychology Program, all students prepare and submit a tentative plan for the remainder of their undergraduate program as a part of their activities in Psychology Seminar I. This tentative plan is based on their particular personal, vocational and professional interests and goals and is developed with the guidance of the Psychology program director and Psychology faculty.

GENERAL REQUIREMENTS—B.A. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies-----	70 credits
Required in major studies-----	40 credits
Electives-----	20 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—70 credits required

Communications (at least 25 credits) Suggested courses include fundamental English courses and advanced writing courses; fundamental and advanced speech courses; foreign languages; basic statistics; computer programming; journalism; graphic arts; audio-visual communications; reading courses; and others. Students are strongly advised to develop a variety of communication skills involving many different modes of communication.

Fine Arts, Physical Education, and Humanities (at least 15 credits) Suggested courses include art and music appreciation courses; literature courses; philosophy courses; and physical education courses which contribute to good personal health and the development of recreation skills. Students are strongly advised to plan at least one literature course and one philosophy course in this area of their program plan.

Mathematics, Natural and Physical Sciences (at least 15 credits) Students are strongly advised to include at least one college level math course and one laboratory science course. Courses in genetics, physiology, anatomy, sexual biology, animal behavior, and organic chemistry are particularly appropriate for Psychology students. Applied Mathematics courses (e.g. Computer Programming, Statistics, etc.) cannot be used for electives in this category, but with planning, may be used as communications credit.

Social Sciences (at least 15 credits) Students are strongly advised to include at least one sociology course and a balance of courses in history, economics, political science, and anthropology in their program plan.

MAJOR STUDIES—40 credits required

All students enroll in a continuing seminar as a part of their program. As they progress through these seminars, they develop new competencies and demonstrate their achievements. While in Psychology Seminar I, students plan their four-year programs and take a core of required courses: 479-110, 479-120, 479-150, and 479-190. After submitting their program plan and completing the required courses, they progress to Psychology Seminar II.

Course	Credit Required Courses:
479-100, Psychology Seminar I-----	1
479-110, General Psychology-----	3
479-120, Psychology: Its History and Systems-----	3
479-150, Humanistic Psychology-----	3
479-190, Psychology Methods I-----	3
479-300, Psychology Seminar II-----	1
479-400, Psychology Seminar III-----	1
479-x98, Field Experience-----	2
479-x99, Independent Study-----	(at least) 1
<i>Advanced, Elective Courses:</i>	
479-251, Child Psychology-----	3
479-281, Environmental Psychology-----	3

479-390, Experimental Psychology*	3
479-460, Personality and Mental Health	3
479-484, Introduction to Behavior Modification	2
479-530, Psychology of Learning*	3
470-535, Motivation and Emotion*	3
479-540, Psychology of Individual and Group Differences	3
479-552, Adolescent Psychology	3
479-561, Abnormal Psychology	3
479-570, Assertive Training Procedures	2
479-571, Psychology of Marriage and the Family	2
479-574, Psychology of Women	2
479-581, Industrial Psychology	2
479-632, Perception*	3
479-690, Psychological Measurement*	3
326-541, Psycholinguistics	3
387-250, Social Psychology	3
413-501, Introduction to Guidance	2
One other 413 course	2-3
421-303, Educational Psychology	2
One other 421 course	2-3
459-101, Introduction to Rehabilitation	3
One other 459 course	2-3
Behaviorally related courses in Life Sciences (e.g. Animal Behavior, Neuroanatomy, Psychobiology)	2-3

Others as appropriate to individual program plans

*Courses conducted primarily for Psychology majors and minors. All Psychology students are strongly advised to include a selection of these courses in their program.

ELECTIVES—20 credits required

As much as possible, the courses in this area of the program are free electives. The particular courses students take for this area depend on their choice of a minor, self-planned concentrations and personal goals. Many courses in the School of Home Economics and the School of Industry and Technology may help students in Psychology to develop important competencies. These are suggested to students in separate communications.

MINOR STUDIES—22 credits required

Students in the Psychology Program are required to complete a minor program. They may elect to complete one of the minor programs offered in various departments at Stout, or with the program director's advice and approval, they may substitute a preplanned program of work developed around a particular concept or process. The minor program overlaps other areas of the program and is not a separate selection of courses beyond the three areas described above.

NON-TRADITIONAL LEARNING EXPERIENCES

In recognition of the value that may be derived from learning experiences that take place outside of the traditional classroom, the psychology program requires all students to complete at least one field experience. This involves a working/learning activity and is often completed during a summer break. In addition, the program requires or encourages students to participate in additional varieties of learning activities including independent study, internships, foreign study, exchange programs and others.

SENIOR RESEARCH INVESTIGATION

As a culminating experience in the program, in conjunction with Psychology Seminar III, students conduct and report an original research investigation pertinent to Psychology and to their particular interests. This project provides the opportunity for students to practice skills they have acquired and to apply the knowledge they have attained in their studies.

VOCATIONAL REHABILITATION

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help handicapped citizens optimize their vocational potential. A general listing of these competencies includes:

- A. Knowledge of the history, philosophy, and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including sheltered workshops, rehabilitation facilities, vocational rehabilitation agencies; knowledge of mental, physical, and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist the handicapped; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
- B. Elementary skill in the use of vocational evaluation techniques; elementary skill in work adjustment and counseling techniques; and elementary skill in utilizing job placement and follow-up procedures for the handicapped.

- C. Ability to interact effectively with handicapped people. Handicapped persons include those with physical, emotional and social disabilities such as: mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses. The graduates of this program are employed in sheltered workshops, rehabilitation facilities, state vocational rehabilitation agencies, adult day care centers, mental health clinics, half way houses, and a variety of other facilities serving the handicapped. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies-----	44-48 credits
Required in major studies-----	53 credits
Required in special studies*-----	22 credits
Electives-----	7-11 credits

- *Students must select a special studies concentration from either business, home economics, industry, physical education, or develop their own individualized concentration with the advice and consent of their faculty advisor. Courses in these areas are designed to provide specific technical skills for working with the handicapped and disadvantaged in rehabilitation settings.
- Students majoring in rehabilitation must obtain a "C" or better in all courses taught in the rehabilitation department. The student will have the option of taking the course over again and obtaining a "C" or better or dropping from the program. In addition, an overall grade point of 2.5 is required for all courses taught by the rehabilitation department.
- Students must fulfill the English adequacy and speech proficiency requirements of the respective departments.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—44-48 credits required

Course	Credit
326-101 and 326-102, English*-----	6
391-100, Fundamentals of Speech*-----	2
326-3xx, Advanced Writing or 391-xxx, Advanced Speech*--	2-3
308-132, Physiology and Anatomy*-----	4
308-220, Physiology of Disabilities*-----	3
355-1xx, or higher mathematics-----	4
387-110, Introduction to Sociology-----	3
479-110, General Psychology-----	3
421-205, Human Relations for the Helping Professions-----	2
320-xxx, Economics or-----	

375-xxx, Political Science -----	3
338-xxx, History -----	2-3
Literature or Foreign Language -----	3
365-xxx, Philosophy -----	3
Art, Music, Theater or Photography -----	2-3
Any 366-xxx or 367-xxx -----	2

*A grade of "C" or better is required in these courses before graduation.

MAJOR STUDIES—55 credits required

459-101, Introduction to Rehabilitation -----	3
459-102, Community Resources -----	3
459-201, Basic Skills in Rehabilitation -----	2
459-205, Rehabilitation Practicum -----	4
459-x98, Field Experience—Vocational Rehabilitation -----	2
459-310, Vocational Evaluation -----	4
459-311, Adjustment Services -----	3
459-330, Psycho-Social Aspects of Disabilities -----	3
459-401, Principles and Techniques of Caseload Management -----	2
459-410, Placement Processes With Handicapped -----	3
479-561, Abnormal Psychology -----	3
459-585, Rehabilitation of the Mentally Retarded -----	2
459-610, Psychological Testing With Handicapped People -----	2
413-675, Counseling Theory -----	2
459-680, Principles of Rehabilitation Counseling -----	3
<i>Select 12 credits from the following restricted electives:</i>	
459-x98, Field Experience -----	up to 4
459-x99, Independent Studies -----	up to 6
421-305, Teaching Practicum -----	2
459-325, Rehabilitation of the Sensory Disabled -----	3
140-580, Driver Education for Handicapped -----	2-3
459-402, Rehabilitation Facility Operations -----	3
459-505, Sign Language I -----	3
459-506, Sign Language II -----	3
459-520, Rehabilitation of the Chemically Dependent -----	3
431-561, Prescriptive Diagnostic Teaching -----	3
431-581, Legal Rights of the Handicapped -----	2
459-682, Sexuality and the Disabled -----	2
459-685, Group Processes in Rehabilitation Settings -----	2
413-444, Introduction to Group Processes -----	2
459-413, Vocational Evaluation Seminar -----	2
459-525, Rehabilitation of the Public Offender -----	3
459-550, Independent Living -----	2
459-601, Rehabilitation in the Private Sector -----	2
459-605, Microcomputer Applications for the Handicapped --	2

SPECIAL STUDIES—22 credits required from one of the following concentrations:

BUSINESS

160-206, Principles of Accounting I-----	3
160-207, Principles of Accounting II-----	3
Business restrictive electives-----	16

HOME ECONOMICS

Human Development-Family Living restrictive electives	8
Habitational Resources restrictive electives -----	4
Food and Nutrition restrictive electives-----	5
Apparel, Textile, and Design restrictive electives -----	5

INDUSTRIAL

170-101, Processes: Concepts -----	3
150-200, Production Management-----	3
Industrial Arts and Production Management restrictive electives -----	16

PHYSICAL EDUCATION

367-315, Adapted Physical Education -----	3
366-340, First Aid -----	2
367-340, Camp Leadership or -----	2
367-325, Recreation Leadership-----	2
366-355, Kinesiology -----	3
366-346, Cardiopulmonary Resuscitation -----	.5
Restricted Electives in 366-xxx and/or 367-xxx-----	11.5

**LOCAL EDUCATION ADMINISTRATION (LEA)
VOCATIONAL EVALUATION**

REQUIRED

421-682, Reading Methods - Secondary Schools-----	2
431-630, Mainstreaming Special Students -----	3
459-413, Vocational Evaluation Seminar -----	2

CURRICULUM AND METHODS—4-6 credits

421-438, Curriculum Development-----	2
421-440, Management of the Learning Environment -----	2
431-561, Prescriptive Diagnostic Teaching -----	3
416-301, Methods in Distributive Education-----	4

FOUNDATIONS OF EDUCATION—4-6 credits

421-422, Principles of Secondary Education -----	2
421-505, History of Education -----	2
421-690, The Educational Sciences -----	2

416-201, Introduction to Distributive Education -----	2
413-501, Introduction to Guidance-----	2

CAREER EDUCATION AND EDUCATIONAL/ VOCATIONAL PROGRAMMING—4-8 credits

469-502, Principles of Vocational Education-----	2
469-560, Cooperative Occupational Education Programs ----	2
413-691, Theories of Career Development-----	2
431-560, Special Education Methods and Materials -----	2
431-561, Prescriptive Diagnostic Teaching -----	3
431-661, Career Education for Handicapped Youth -----	3
242-101, Experiential Learning in Home Economics-----	1
242-620, Vocational Programs in Home Economics -----	2

INDIVIDUALIZED CAREER

This concentration is designed for students whose educational goal cannot be met by any of the previous tracks. Students who elect this track must develop, with the advice and consent of their faculty advisor, a list of the 22 credits they plan to take. They must also submit a written rationale for the selection of these credits explaining how they will promote their educational and career goals. The course list and rationale signed by the student and the student's advisor will be kept in the student's file. An individualized career track should be completed prior to the beginning of the senior year.

ELECTIVES—12 credits required

From courses offered at Stout or those approved for transfer.

SPECIAL EDUCATION TEACHER CERTIFICATION

Special Education Teacher Certification (Secondary EMR) may be obtained along with a Bachelor of Science degree in Vocational Rehabilitation by completing the required credits in Liberal Studies and the following courses. Students considering this unique program must see the Special Education Program Director for arrangements. A grade of "C" or better and a grade point average of 2.5 or higher is required in all Special Education and Rehabilitation courses.

SPECIAL STUDIES—at least 20 credits required

Course	Credit
212-250, Family Relations I -----	3
229-124, Foods or 229-212 Nutrition -----	3-4
214-266, Apparel Construction or 214-590 Practicum in Textile Design -----	3
170-101, Processes-----	3
170-304, Ind. Crafts or 170-270 Lt. Building Construction----	2
130-140, Introduction to Graphic Arts-----	2
110-210, General Motor Mechanics or 110-580 Driver Education for the Handicapped -----	2

600-560, Audio Visual Communications-----	2
---	---

SPECIAL EDUCATION—42 credits required

431-532, Psychology of the Exceptional Child-----	3
421-205, Human Relations for the Helping Professions-----	2
421-536, Working with Culturally Different -----	2
421-438, Curriculum Development-----	2
421-440, Management of the Learning Environment -----	2
421-682, Reading Methods-Secondary Schools -----	2
431-559, Curriculum for the Retarded -----	2
431-560, Special Education Methods and Materials -----	2
431-561, Prescriptive Diagnostic Teaching -----	3
431-562, Clinical Experience With the Handicapped-----	2
431-585, Mental Retardation -----	2
431-660, Practicum in Special Education -----	2
431-661, Career Education -----	3
431-662, Classroom Management Techniques-----	3
431-480, Student Teaching - MR -----	8
431-555, Issues in Special Education or 431-581 Legal Rights of the Handicapped -----	2

VOCATIONAL REHABILITATION—24 credits required

459-101, Introduction to Rehabilitation -----	3
459-102, Community Resources -----	3
459-201, Basic Skills in Rehabilitation -----	2
459-310, Vocational Evaluation-----	4
459-3xx, Rehabilitation of the Mentally Ill-----	2
459-401, Principles and Techniques of Case Load Management -----	2
459-410, Placement Processes with the Handicapped -----	3
459-610, Psychological Testing with Handicapped People-----	2
459-680, Principles of Rehabilitation Counseling-----	3

ELECTIVES—6-7 credits required

SPECIAL FIELDS CERTIFICATION

Special Fields Certification is an "add-on" teaching certificate to allow teachers in special fields, i.e., Industrial Education, Home Economics, Physical Education, and Art Education to teach special needs students in their particular field. The following planned sequence of courses will allow students completing teacher certification in special fields and/or teachers already certified in special fields to receive Special Education certification within their special field. This 11-semester credit sequence is recognized as an approved program by the Wisconsin Department of Public Instruction.

431-532, Psychology of the Exceptional Child or-----	3
431-630, Mainstreaming Special Students -----	3

431-561, Prescriptive Diagnostic Teaching -----	3
431-562, Clinical Experience With Handicapped Youth*-----	2
431-662, Classroom Management Techniques-----	3

*This course may be waived for students exposed to supervised clinical experience with handicapped youth in student teaching.

Specializations

An all-university specialization is designed to achieve defined outcomes. Designing an all-university specialization begins by identifying a significant area of study, by setting forth the outcomes intended, and by identifying the learning experiences to be offered to students, and the evaluation procedures to be used. Curricular design for all-university specializations is not constrained to traditional academic patterns. Primary consideration is given to clarity in defining intended outcomes, effectiveness in promoting learning and appropriateness to the targeted student population. Learning experiences for all-university specializations often include non-credit experiences, internships, mentor-fellow interactions, evaluations of specified capabilities achieved outside of the university setting, or successful completion of proficiency evaluations or external certification or licensing examinations. Of course, most all-university specializations include traditional university course work as well. These courses are often from several departments or curricular areas and involve faculty from several disciplines.

All-university specializations do not depend on the backgrounds of students in any single major. They are intended to accomplish their objective within the learning experiences listed for the specialization. However, if a student takes courses as part of the all-university specialization, those courses may also be applied to a variety of existing graduate or undergraduate degree programs, as far as the curricula of these programs permits. Completion of an all-university specialization is recorded on the student's transcript and a certificate of completion is issued as well.

All-university specializations are not defined primarily in terms of numbers of credits accrued. Instead, the program specifies the completion of prescribed learning experiences and/or achievement of specified capabilities. The student's time commitment is consistent with achieving the desired outcomes. All-university specializations are highly focused; that is, they do not address secondary or concomitant outcomes. They do not include electives and there is limited opportunity (if any) for students to select among comparable courses. They are designed to focus on specific, designated purposes, rather than being intended for individualization for each student. All-university specializations are specified programs to achieve desired outcomes, with designated evaluation procedures.

All students enrolled at Stout have the option of completing an all-university specialization in addition to the degree program. Courses taken for the speciali-

zation may also be applied to the degree program, where they fit within the requirements of the program. In some cases, electing both a degree program and an all-university specialization may not increase the length of time spent at the University beyond the usual commitment for the degree alone; in other cases, additional time may be required.

Craftsmanship

This all-university specialization is intended for persons with interest in any of several craft areas, who wish to achieve professional levels of skill and knowledge in that craft. For each student in the all-university specialization, a team of faculty members with expertise in the area (which may also include practicing professional craftspeople) will be appointed. This team will plan a series of learning experiences for the student and will meet periodically during the program to assess the student's progress toward the program objectives.

The principle instructional method for this all-university specialization is individually guided learning experiences, conducted in the University laboratories under supervision of a faculty committee and/or under the immediate supervision of a practicing craftsman. Existing course work will also be utilized as a source of learning experiences, where appropriate. Stout offers extensive course work related to several craft areas. Internships in operational crafts businesses may also be arranged for some students. The principle evaluation process for this specialization is periodic review, including formative and summative evaluation by the team of faculty members, which will be appointed for each student in the specialization. The faculty advisory team will also conduct the summative evaluation which determines whether the student has successfully completed the program. Contact the Office of the Dean, School of Industry and Technology for further information.

Requirements for the Specialization

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
1 Refine skills in chosen craft area.	Participation in craftwork under the direction of a faculty member and/or professional crafts people.	Evaluation and critique by faculty adviser and/or professional crafts people.
2 Develop a sense of aesthetics.	Interaction with faculty, visiting artists and professional crafts people.	Evidence of a sense of aesthetics and attitudes of excellence will be displayed in individual work, evaluated by a team of advisers.
3 Develop a critical understanding of one's abilities.	A study of and extensive work in a specific craft area.	Successful completion and evaluation of quality craft items via critiques with professionals. Progress will be evaluated periodically by a team of advisers.
4 Develop the ability to successfully confront new design and technical challenges.	Problems which require new and unique solutions will be assigned, worked on and completed by the learner.	Degree to which problem criteria have been fulfilled in the proposed solution will be evaluated by the team of advisers.
5 Develop knowledge of appropriate facilities, tools, resources and materials.	Work with appropriate facilities, tools, resources and materials. (See below for a sample listing of existing related course work at Stout.)	Evidence of using appropriate facility, tools, resources and materials, to be evaluated by supervisor(s) of laboratory experience.

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
6 Develop a knowledge of procurement of tools, materials and equipment.	Select and procure proper tools, materials and equipment. With help of faculty adviser, work toward meeting standards of quality.	Success in obtaining proper tools, materials and equipment. Evidence of working to set standards of quality. Progress evaluated periodically by faculty adviser. Summative evaluation by team of advisers.
7 Develop individual standards of quality craftsmanship.	Work toward meeting standards of quality.	Evidence of working to set standards of quality. Progress toward, and achievement of professional standards of craftsmanship, will be confirmed by team of advisers.
8 Develop ability to assess viability of craft career.	Discussions and critiques with faculty and professional crafts people.	Self-assessment of craftwork and career potential. Validity of self-assessment confirmed by team of advisers.
9 Develop ability to use references related to individuals chosen craft.	Utilize references on a continuous basis and conduct library research on a major project.	Produce a research paper and/or project. Quality of paper and/or project will be evaluated by the team of advisers.
10 Develop an understanding of appropriate small business practices.	Study appropriate tax, resource, production and accounting systems. Complete the course 160-230 Small Business Management (3 credit) or an internship in an operating crafts business (minimum of 3 credits).	Successful completion of designated course work and/or internship experiences.

COURSES IN CRAFTS-RELATED AREAS

Courses may be selected from the following list or from other current offerings, as appropriate, according to the objectives and existing level of expertise and ability of individual students in the craftsmanship specialization.

304-513 Ceramics (3 credits)	170-313 Wood Technology (3 credits)	214-545 Commercial and Household Textiles (2 credits)
304-514 Ceramics (1-3 credits)	170-331 Machine Shop (2 credits)	214-550 Textile Evaluation (3 credits)
304-515 Art Metal (3 credits)	170-333 Machine Shop III (2 credits)	214-590 Practicum in Textile Design (3 credits)
304-516 Art Metal (1-3 credits)	170-344 Cabinet Work I (2 credits)	214-591 Natural Dyeing and Hand Spinning (2 credits)
304-520 Clay and Glaze Laboratory (1 credit)	170-346 General Woodworking (2 credits)	214-592 Practicum in Textile Printing (1 credit)
170-202 Metals (2 credits)	170-357 Patternmaking-Foundry Practice (3 credits)	214-690 Advanced Textile Design - Stitchery (1 credit)
170-209 General Finishing (2 credits)	170-365 Welding I (2 credits)	214-691 Advanced Textile Design - Non-Loom (1 credit)
170-222 Industrial Ceramics (3 credits)	170-460 Metal Forming and Fabrication (2 credits)	214-692 Advanced Textile Design - Hooking (1 credit)
170-230 Machine Shop (2 credits)	170-515 Metallurgy (3 credits)	214-693 Structural Design and Weaving (2 credits)
170-240 Basic Woodworking (1 credit)	170-559 Foundry Seminar (1-2 credits)	214-694 Advanced Weaving Studio (2 credits)
170-241 Machine Woodworking (2 credits)	170-565 Welding II (2 credits)	
170-260 Sheet Metal (2 credits)	214-140 Textiles (3 credits)	
170-304 Industrial Crafts (2 credits)	214-272 Industrial Sewing (2 credits)	
170-308 Surface Coatings and Treatments (2 credits)		

Inventing

The desire to learn is in every creative person, especially to the degree that the results of the study will aid in improved creativity. The student who chooses this all-university specialization will typically have a creative mind and desire to improve his/her inventing skills. The all-university specialization of inventing is intended not only to satisfy these student needs, but also to help solve the societal problems by increasing productivity. Technology has advanced at an extremely rapid pace, but it has not yet been utilized to its fullest potential for the development of new products or processes. By acquainting persons who have creative minds with the most recent advances in technology, chances for new and innovative ideas may increase. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
1 Read mechanical drawings.	Complete the course 130-110 Drafting (2 credits) or equivalent.	Performance examination using simple and complex machine drawings.
2 Produce mechanical drawings.	Complete the course 130-311 Technical Drafting (3 credits) or equivalent. Complete working drawings for an object should be included.	Present completed working drawings to a craftsman for evaluation.
3 Prepare a precise free-hand sketch of an object.	Complete the 304-101 Fundamentals of Design (3 credits) and/or 304-503 Design (3 credits) or the following equivalent series: 304-100 Drawing (3 credits), 304-500 Drawing (3 credits), and 304-305 Presentation Techniques (3 credits).	Performance evaluation: Given an object to sketch, do so with precision and without measuring instruments.
4 Explain mechanical, electrical, fluid and other scientific principles.	Complete physical and technical courses appropriate to the student's special interest area. Courses will be assigned by advisement of technical adviser in consultation with appropriate science department chairperson.	Using an appropriate product which encompasses the desired scientific principles, the student will explain in writing the principles and laws involved.
5 Explain patent procedures.	Conduct an independent study or attend a seminar on patent procedures and law.	Outline the procedure for seeking a patent.
6 Develop a marketing plan for a new product. Set up an organizational structure to produce it.	Complete course 160-230 Small Business Management (3 credits) or complete 160-x98 Field Experience (2 credits).	Given a new patent on a product, list the steps to take and resources available to market and produce the product.
7 Operate machine tools and use hand tools in model making.	Depending upon area of interest, take basic technical courses to gain proficiency in that area(s), i.e. 170-101 Processes (2 credits); 170-202 Metals (2 credits); 170-250 Plastics (2 credits); etc.	Produce a model of a new product from a set of working drawings.
8 Select and develop a reading list of trade publications.	Conduct independent study to include in-depth research in at least one trade area which would yield a comprehensive list of trade publications.	List the library resources and procedures necessary to produce a complete list of trade publications in a given area.
9 Relate the biography of selected famous inventors and their major inventions.	Conduct independent study of an approved list of biographical writings about important inventions and inventors.	In an oral exam setting, answer selected questions on why and how a particular invention was developed.

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
10 Solve problems through logical reasoning, analysis and synthesis.	Complete mathematics course 354-141 Computer Programming (2 credits) and Philosophy, 365-301 Introduction to Thinking and Scientific Methodology (3 credits).	Given a complex problem, present in writing an original solution to the problem using, where possible, modern data-handling processes.
11 Recognize an area of need or a specific need or problem. Explore and show multiple approaches to solving that problem through idea sketching, model building, verbalization or any other means that will give insight into the problem solution.	Complete courses which focus on problem solving and presentations, such as 304-300 Design Theory and Methods (3 credits), 304-330 Industrial Design I (3 credits), 304-340 Industrial Design II (3 credits), and 304-430 Industrial Design III (4 credits).	Make a presentation to a jury of experts. The presentation would include approaches to the problem and solutions selected to satisfy a need or solve a specific problem.
12 Present a complete proposal for an invention.	Consult with staff as needed, via independent study.	Evaluation and critique by program committee for all-university specialization.

Training and Human Resource Development

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses needs for pre-service and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. These students bring to the program a knowledge of their professional area and, in some cases, experience in training programs.

The all-university specialization consists of a series of courses and an internship. In all, completion of the all-university specialization will require at least 17 credits in course experiences, plus an additional 4-8 credits for the internship. The internship designed for the training program is central to the program, hence it appears as a part of the experience required to meet each objective of the program. The credits assigned to individual internships will vary from 4-8, depending on the extent of the specific objectives designed in the "education agreement." The length of the internships will vary, depending on the credit assigned, but in every case will be two or more weeks, full time, per credit earned. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
1 Utilize acceptable analysis procedures in determining training needs in the trainer's professional area.	Complete the courses: 199-534 Task Analysis (2 credits), 198-550 Introduction to Industrial Training (2 credits), xxx-680 Internships (4-8 credits). <i>Select either of the following:</i> 150-600 Organizational Leadership (3 credits), 479-582 Personnel Management (3 credits).	Successful completion of courses at left (7 credits). Successful completion of the contractual agreement of the internship as determined by the Stout supervisor in consultation with the business, industry, government or military supervisor, and successful completion of a field report. (Minimum 4 credits)
2 Design a training program based on established needs.	Complete the course 600-560 (2 credits), AV Communications; a course from the appropriate school in curriculum development or course construction (2-3 credits) †; a course on the Psychology of Learning (2 credits) ††; and a course on teaching methods or strategies (2 credits) §. Complete the course xxx-680, Internship.	Successful completion of courses at left. (Minimum 8 credits) Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the Stout supervisor. Completion of a field report is required.
3 Implement and coordinate a training program; design and teach training courses.	Complete the course xxx-680, Internship.	Successful completion of the contractual agreement for the internship. Success is evaluated by the business, industry, government or military supervisor, and by the Stout supervisor. Completion of a field report is required.
4 Evaluate the effectiveness of training courses or programs.	Complete a course on evaluation and/or program evaluation (2 or 3 credits), such as 421-742 Program Evaluation (3 credits), 421-641 Educational Evaluation (2 credits), 190-406 Instructional Evaluation in Industrial Education (2 credits), 199-640 Instructional Evaluation in Vocational Education (2 credits) or 242-710 Applied Evaluation in Home Economics (2 credits). Complete the course xxx-680, Internship.	Successful completion of course at left. (Minimum 2 credits). Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the Stout supervisor. Completion of a field report is required.

Futures Studies

Increasingly, our society needs people who have the skills and talents to make projections, and to use the concepts and techniques of futures studies. As change increasingly affects our lives, people who have the skill to manage the dynamics of change will be in demand, both personally and professionally, in education, government, the military, business, industry, the church and volunteer organizations.

The curriculum for this all-university specialization includes three group instruction courses (5 credits) and four individually guided learning experiences

† Such as 190-405 Curriculum Development in Industrial Education (2 credits); 190-638 Course Construction (2 credits); 196-401 Distributive Education Curriculum (3 credits); 199-638 Course Construction for Vocational Educators (2 credits); 421-438 Curriculum Development (2 credits); and 242-301 Home Economics Curriculum (3 credits).

†† Such as 479-530 Psychology of Learning (3 credits); 421-303 Educational Psychology (2 credits); 421-685 Psychology of Adult Education (2 credits).

§ Such as 190-205 Methods of Teaching Industrial Education (2 credits); 196-301 Methods in Distributive Education (4 credits); 199-605 Methods of Teaching Vocational Education (2 credits); 421-714 Teaching Strategies (4 credits); and 242-201 Teaching Techniques in Home Economics (2 credits).

(6 credits). The individually guided experiences include two independent studies, an on-campus internship and a field study to be conducted in an off-campus setting. Completion of the all-university specialization requires a total of 11 credits. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

INTENDED OUTCOME	LEARNING ACTIVITY	ACHIEVEMENT INDICATOR or EVALUATION PROCESS
1 Understanding of the concepts, materials and organizations related to Futures Studies.	100-500 (2 credits) Introduction to Futures Studies. This course will introduce the student to the information and skills necessary to start and continue Futures Studies activities.	Examination, papers and reports, all meeting a minimum grade of "C."
2 Ability to employ common futures forecasting techniques within the context of a futures research project.	100-525 (1 credit) Advanced Futures Studies. This independent study course will focus on projection techniques. The student will experiment with several of the common techniques.	Examination, papers and reports, all meeting a minimum grade of "C."
3 Ability to apply the concepts and techniques of Futures Studies to the institution of the family.	212-580 (1 credit) Future of the Family. Evaluation of experimental and utopian forms of the family and study of the future of the family.	Examination, papers and reports, all meeting a minimum grade of "C."
4 Ability to employ futures studies resources to do futures research.	190-523 (2 credits) Futures of Technology. This course will focus on the three time frames of technology, starting with definitions and exploration of others' ideas about future possibilities.	Positive recommendation from the adviser and an annotated bibliography derived from the literature search.
5 Ability to apply the concepts and techniques of futures research to academic purposes.	100-xxx (1 credit) Independent Study Literature Search. This experience will involve the student more heavily in a particular area of interest and provide an opportunity for some original futures research.	Positive recommendation from Center for Futures Studies director, based on the quality of reports and an assessment of reactions from clients.
6 Ability to conduct futures research within corporate or organizational setting.	100-xxx (2 credits) Internship in Center for Futures Studies. This on-campus experience will provide an opportunity for students to practice the skills learned, to broaden their experiences and to provide a service to the Stout community.	Positive reaction from agency with which student has served during the field study (a checklist of criteria will be provided).
	100-xxx (2 credits) Applied Field Study. This off-campus experience will offer a community service and provide a culminating and synthesizing experience for the student prior to an initial position as a practicing futurist. The student will be associated with a community organization able to utilize the talents of a futurist.	

MINORS AND CERTIFICATION PROGRAMS

Aviation/Aerospace	Computer Science	Physics
Art	Economics	Psychology
Biology	English	Sociology
Business Administration	Food Technology	Speech
Chemistry	History	Tourism
Coaching Certification	Journalism	Traffic Safety
	Mathematics	Women's Studies

Minors are defined as teaching and non-teaching. Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, the methods course 421-305 in the minor, and some student teaching experience in the minor field, in addition to the required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses. Approval forms and minor program plans are available in the office of the department offering the minor.

AVIATION/AEROSPACE STUDIES

A minimum of 23-semester hours is required for a minor in Aviation/Aerospace Studies. There are two options: (1) a teaching minor, which must be part of a teaching major and (2) a non-teaching minor.

Required courses for either option are 110-630, 110-631, 190-505, 170-560, 372-221 and 195-300. Additional required courses for the teaching minor are: 110-635 or 110-x99 and 190-205 or 421-305. Some student teaching is required in Aerospace Education. Additional required courses for the non-teaching minor are: 110-635 and 110-x99.

ART

Twenty-two to 24-semester hours are required. Required courses are 304-100, 304-101, and 304-522. The additional 13-to-15 credits may be accumulated in one of three "tracks." Track number one offers a varied overview approach; Track number two, a more concentrated emphasis via a variety of two dimensional (e.g., drawing, painting, printmaking, design), three dimensional (e.g., ceramics, jewelry, sculpture) or design (e.g., interior, industrial or graphic)

areas; and Track number three allows for specific emphasis in any single Art discipline or media with the exception of Art Education.

BIOLOGY

A non-teaching minor consists of 22-semester hours of biology. The required courses in biology are 308-132, 308-142, 308-152, and 308-306. Additional courses to complete 22-semester hours of biology will be selected. Of these no more than two of the courses 308-150, 308-332, and 308-342 will be acceptable. The course 308-122 is acceptable only when taken before the courses 308-142 and 308-152. Inorganic chemistry is not required for the non-teaching minor.

All students entering a minor program in biology will be assigned a faculty adviser to aid the student in proper scheduling of courses.

BUSINESS ADMINISTRATION

A minor in Business Administration consists of 22-semester hours. The minor must be approved by the Department. Required courses are 160-206, 160-207, 150-304, 160-330, 320-210, and 320-215 (18 credits). Elective courses may be selected from any business course or other course(s) approved by the Department of Business. (4 credits).

CHEMISTRY

Twenty-two semester hours are required. Required courses are 311-115 or 311-125 or 311-135, 311-136, 311-201, and 311-203. At least one of 311-204 or 311-531 or 311-535 plus additional selected chemistry courses to obtain 22-semester hours. Chemistry minors who plan to obtain teaching certificates are required to select 311-501, 311-503, and 311-535 plus an additional two-semester hour course 421-305, for a total of 24-semester credits.

COACHING CERTIFICATION/MINOR

A minor in coaching consists of a minimum of 22-semester hours. Eighteen-semester hours are required for certification with at least one course in each of five areas. Asterisk (*) denote required courses. Area I: 366-340* and 366-350*; Area II: 367-350, 367-360 and 367-450; Area III: 367-401, 367-460, 367-461, 367-465, 367-470, 367-471 and 367-478; Area IV: 308-132*, 366-355*; Area V: 366-102 and 366-365*. Area VI contains elective courses for the 22-credit minor only.

COMPUTER SCIENCE

Twenty-two semester hours are required for a minor program in Computer Science. The minor program is to be planned with and approved by the Department of Mathematics. Required courses are: (354-141 and 354-240) or 354-143; 354-241; two of 354-245, 354-341 and 354-445; and Independent Study, Field Experience or Internship. Additional courses will be selected by the student and the Department.

ECONOMICS

Students may elect a 22-credit minor in Economics either for teaching or non-teaching. Required courses are 320-210, 320-215, 320-325, or 320-470, 320-410 and 320-415. Additional economics courses will be selected, 338-520 may be included. However, both 320-335 and 320-440 and both 320-420 and 320-421 may not be applied to the minor. Students who take a teaching minor must also take 421-305, Teaching Practicum, 2 credits, in addition to the 22-credit minor.

ENGLISH

A teaching minor in English consists of 22 semester hours in English plus two semester hours in Education Methods. A non-teaching minor in English consists of 22 semester hours in English.

Students must have 2.5 grade point in English courses to be awarded the minor. All English minor programs must be approved by the Department of English.

Students who wish to be certified to teach English must take a teaching minor in English. A teaching minor in English must include the following courses: 326-340, 326-402, 421-305. From each of the following sets, students must choose at least one: a) 326-344 or 326-347; b) 326-350, 326-355, 326-360; c) 326-348, 326-400, 326-401. Additional credits will be selected from the offerings in English, exclusive of 326-101 and 326-102; 326-111, Honors, and 326-112, Honors, may be included.

A non-teaching minor in English for those who do not wish to be certified to teach is taken with an option in either literature or writing.

The non-teaching English minor with an option in literature must include one course in English Literature and one course in American Literature. The remaining 16 credits may be selected from the other literature offerings; one advanced writing course may be included; 326-347 is suggested.

The non-teaching minor in English with an option in writing includes courses from the following blocks: (a) language (minimum of three semester hours); (b) literature (minimum of six semester hours); (c) writing (minimum of 11 semester hours); and (d) electives (minimum of two semester hours from any of the above blocks).

FOOD TECHNOLOGY

Thirty-four semester hours are required for a Food Technology minor. Required courses are 229-124 or 229-240, 229-212, 229-638, 229-642, 229-650, 150-200, 170-280, 308-306, 311-511, 311-515 and 372-211.

This minor would combine best with food-related Home Economics majors, Industrial Technology, Business Administration and Applied Mathematics. Students may obtain forms and additional information from the Food and Nutrition Department office.

HISTORY

Students may elect a 22-credit minor in History either for teaching or non-teaching. Required courses are 338-120, 338-121, 338-140 and 338-141. Additional history courses will be selected. Course 336-104 may be included.

Students who take a teaching minor must include two of the following courses: 338-322, 338-360, and 338-380 and, in addition to the 22-credit minor, must take 421-305 Teaching Practicum, 2 credits.

JOURNALISM

Twenty-two semester hours are required. Students must have a 2.5 grade point in courses submitted for the minor. Required courses are 326-306, 326-518, 326-410, 326-515 or 326-516; 326-425, 479-579, 130-140 and 600-504. Additional courses will be selected from 326- (any literature course numbered 200 or above), 304-101, 130-475, 375-210, 338-220, 338-210, 387-225, 375-310, 391-554, 391-244, Field Experience and Independent Study.

MATHEMATICS

A minor program in Mathematics may be chosen as a teaching or a non-teaching minor. Either program is to be planned with and approved by the Department of Mathematics. The program leading to teaching certification requires 24-semester hours. The required courses are: 355-153 or 355-156, 355-262, 355-275, 354-331 or 354-530, 355-370 and 421-305. Additional courses will be selected by the student and the Department.

A non-teaching minor in Mathematics requires a minimum of 22-semester hours. The required courses are: 355-153 and 355-154, or 355-156 and 355-157. Additional courses will be selected by the student and the Department.

PHYSICS

Twenty-two semester hours are required. Required courses are 372-221, 372-222, 372-223 and 372-529. At least eight credits with a 500 number or greater must be included in the minor program. All minor programs must be planned with and approved by the Physics Department.

PSYCHOLOGY

Twenty-two semester hours are required. Required courses for 11-semester credit hours include: 479-110, 479-460 or 479-561; one of the following: 479-190, 479-690, 421-641, 354-130 or 354-530; 479-251 or 479-552. Courses from which to select 11 or more semester credit hours include: any of the courses listed above not already taken; 479-120, 479-150, 479-281, 479-390, 479-484, 479-530, 479-535, 479-540, 479-570, 479-571, 479-574, 479-581, 479-582, 413-655, 413-675, 413-691, 421-303, 431-532, 459-585, 303-220, 387-250, 326-541, 308-650, 308-651, Field Experience and Independent Study in Psychology.

SOCIOLOGY

Twenty-two semester hours are required. Required courses are 387-110 and 303-220. Additional sociology courses will be selected, 303-250 and 303-300 may be included.

SPEECH

A teaching minor in Speech consists of 24-semester hours. Required courses include 391-101, 391-102, 391-200, 391-202, 391-206, 391-208, 391-310, 391-512 and 421-305. Additional courses may be selected from speech electives.

A non-teaching minor consists of 22-semester hours with the following four options: General Speech, Communications and Public Address, Radio-Television, and Theater. Each minor includes a minimum of 10-semester hours in the option plus 12-semester hours from the remaining three areas. A maximum of three credits may be selected from communication related courses offered by other departments when approved by the Speech Minor Adviser.

TOURISM

A minor in Tourism consists of 24 semester hours. Required courses are 245-240, 245-340, 245-341, 245-640, 245-645 and 245-682. The language requirement consists of four semester hours of (French) 328-101, 328-102, (Spanish)

329-103, 329-104 or a comparable number of hours of a well-known language used in international travel and trade, such as German, Italian, Russian, Chinese, Portuguese or Japanese. Minors in Tourism must also complete five-semester hours of approved elective credits. This minor in Tourism is coordinated by the administrator in the department of habitation resources.

TRAFFIC SAFETY

Twenty-two semester hours are required. Required courses are 140-270*, 140-271, 140-375, 140-377, 140-378, 140-574 and 140-575; at least one of the following three courses is required: 140-380, 140-577, or 140-578. The elective grouping is as follows: 366-340, 421-303, 600-560, 413-501.

*Prerequisite for 140-377.

WOMEN'S STUDIES

Theories and Practical Applications

Twenty-four semester hours are required. Required courses are 300-510, 212-250 or 479-574, 387-275, 479-570 and 326-372 or 304-331. Additional courses will be selected from courses relevant to women's studies in various disciplines, including Independent Study. The minor must be planned with and approved by an adviser. Consult the Office of Assistant Dean, School of Liberal Studies.



THE COURSE DESCRIPTIONS

COURSE NUMBERING SYSTEM

Stout uses a six digit course numbering system. The first three digits designate the school and department offering the course. The School of Industry and Technology courses begin with 100; Home Economics—200; Liberal Studies—300; and Education—400. Courses begin with 500 are administered by the Vice Chancellor's Office. Learning Resource courses are numbered in the 600 series.

The second three digits of the course number refer to the course level. The 100 series is primarily for freshmen; 200—sophomore, 300—juniors; and 400—seniors. The 500 series is junior/senior level but is also appropriate for graduate credit. The 600 series is senior and graduate level; 700 series is graduate level only; and the 800 series is available to graduate students at the Ed.S. level only.

COURSE SCHEDULING

A letter system has been developed to help students plan course schedules. Letters following course descriptions indicate when a course is usually offered. F—Fall Semester; W—Winter Semester; S—Summer Session; SO—Summer Session odd numbered years; SE—Summer Session even numbered years. Courses not lettered follow no usual pattern. The system does not guarantee that a course will be offered during a particular semester.

Courses which are repeatable for credit and those for which a special course fee applies are also noted in the catalog description.

INDUSTRY AND TECHNOLOGY

100-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairman. F-W-S

100-500 Introduction to Futures Study 2 Cr. Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity. F

100-525 Advanced Futures Study 1 Cr. Student-designed futures study based on application of methods to student's program area. Prerequisite: 100-500.

100-590 Technical Service Schools 1-6 Cr. Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1) student makes all arrangements with manufacturer offering course; 2) one credit is awarded for each full week (40 clock hours) of attendance; 3) student enrolls and pays fees at university prior to taking course; 4) approval of Dean of S.I.T. needed before enrolling for credit; 5) Graduate College approval required for students taking course for graduate credit. S

ENERGY AND TRANSPORTATION

110-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisites: consent of instructor, department chairman. F-W-S

110-101 Energy in Industry 2 Cr. Energy past, present and future: sources, forms, controls, conversion, transmission, storage. F-W

110-103 Power Mechanics 2 Cr. Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized. F-W-S

110-104 Fundamentals of Electronics 2 Cr. Non-mathematical, consumer-oriented approach to electrical/electronic device operation, maintenance, use in home, automobile, industry. Not applicable to Industrial Technology or Industrial Education degrees. F-W

110-201 Transportation 2 Cr. Needs, preparation, methods, destination and control of transportation as it relates to society and industry. F

110-204 Electricity 3 Cr. A study of electricity and its associated phenomena, and the principles which apply to motors, generators, transformers, circuits, distribution and use. Prerequisites: 355-120, 372-221 or 110-101, or equivalent. F-W-S

110-209 Power Mechanics—Small Engine Service 2 Cr. Mechanical principles and functions of small power units. Operation, maintenance, tune-up and overhaul procedures of small two- and four-cycle engines. F-W

110-210 General Motor Mechanics 2 Cr. Consumer knowledge on automobile chassis, internal combustion engine components, fuels, ignition, suspension, and drive systems including service and adjustment techniques. F-W

110-240 Electronics 2 Cr. Solid-state rectifiers, amplifiers, oscillators and associated input and output devices; electronic communications and application of equipment to selected problems. Not applicable to electronics concentration. Prerequisite: 110-204. F-W

110-260 Introduction to Fluid Power 2 Cr. Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. F-W-SE

110-271 Microprocessor Fundamentals 3 Cr. The examination of the working components of a simple

microprocessor system, machine language programming, registers, memory, input-output and application such as: security, energy monitor, control, communication, transportation, etc. Prerequisites: 300-101 and basic electronic background or equivalent. F-W

110-272 Microprocessor Interfacing 3 Cr. Various sensors, transducers and controllers are interfaced with emphasis on the hardware/software interaction. Experiments include RS-232 and fiber optic communication, graphics, input and output, temperature and pressure control, and speech synthesis and recognition. Prerequisite: 110-271, or equivalent. F-W

110-303 Mechanical Power Transmission 3 Cr. Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems. F-W

110-308 Thermodynamics of Internal Combustion Engines 2 Cr. Fuels, oxidants and propellants; combustion, combustion processes and gas laws. Prerequisites: 355-120, 355-121 and 372-221. W

110-314 Chassis and Ride Control 2 Cr. Automotive suspension systems, ride control and brakes. Laboratory work on wheel alignment, balancing, steering systems, and brake rebuilding. Prerequisite: junior standing. W

110-315 Cooling and Heating 1 Cr. Theory of operation, typical routine service and component diagnostic procedures for automotive air condi-

tioning, heating and cooling systems.
W

110-320 Body Repair and Refinishing
3 Cr. Damage analysis, repair procedures, surface preparation and finish application on automobile bodies; accessories, trim and interiors. Prerequisite: junior standing. W

110-322 Fuel and Exhaust Systems 2
Cr. A study of fuels, fuel systems and exhaust systems. Experiences in diagnosis, servicing and repairing the fuel and exhaust systems. W

110-343 Introduction to Solid-State
Electronics 3 Cr. Theory and use of discrete and integrated solid-state devices. Application and use of selected laboratory equipment and devices. Prerequisite: 110-204. F-W

110-344 Electric Power & Distribution 2 Cr. Single and polyphase residential, commercial, industrial wiring systems, codes and standards. Prerequisite: 110-204. W

110-348 Motors and Generators 2 Cr. Rotating machinery concepts; D.C. generators, motors; synchronous motors, generators; induction motors; controls. Prerequisite: 110-204. F-W

110-361 Industrial Hydraulics 2 Cr. Theory, operation and construction of hydraulic systems and circuits; pumps, reservoirs, lines, control valves and actuators. Prerequisite: 110-260. F

110-362 Industrial Pneumatics 2 Cr. Theory, operation and construction

of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators. Prerequisite: 110-260. W

110-411 Electrical Circuits and Tune
Up 3 Cr. Diagnosing problems in automobile electrical, fuel and exhaust systems. F

110-505 Energy Alternatives 2 Cr. Present and future energy sources, conservation, use in home, transportation and industry. F-W

110-506 Energy Management 2 Cr. Evaluate industrial facilities and equipment for energy efficiency and feasibility of modification for improving consumption; current and alternative techniques for overcoming energy loss. F-W

110-508 Bicycle Maintenance, Repair
& Transportation 2 Cr. Maintenance, repair, troubleshooting and safety procedures; selection, vocational opportunities, transportation and bikeway design. W

110-511 Carburetion and Emission 2
Cr. Operational principles, diagnostic procedures and defective component repair of fuel and emission control systems. Prerequisite: 110-411. W

110-517 Applied Integrated Circuits 3
Cr. Application of integrated circuits in analog/digital systems: analog measurement, data conversion and introduction to microprocessors. Prerequisite: 10 credits in Physics and/or Electronics. W

110-522 Emission Control 1 Cr. Causes, control methods and related diagnostic procedures for domestic and foreign automotive emissions. F-W

110-523 Service Management 2 Cr. Auto service management, planning and layout of service facilities, selection of tools and equipment, and development of curriculum and/or work schedule. W

110-543 Linear Circuits 3 Cr. Linear discrete and integrated solid-state devices used in amplifiers, oscillators, other practical circuits. Application and use of selected laboratory equipment and devices. Prerequisite: 110-343. F-W

110-548 Instrumentation and Control 3 Cr. Industrial measurement, control, open loop, closed loop, analog, digital, electrical/electronic, fluidic, mechanical, pneumatic. Prerequisite: 110-343. W

110-552 Electronic Communications 3 Cr. Electrical/electronic communication systems; modulation, demodulation, r.f. and i.f. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters. Prerequisite: 110-343. F

110-556 Digital Circuits 3 Cr. Logic gates; Boolean algebra; number systems, codes and operations; combinational, sequential, arithmetic logic, memories. Prerequisite: 110-343. F-W

110-573 Computer Technology 4 Cr. A detailed investigation in the design,

manufacture and operation of computer and peripheral integrated circuits, including microprocessors, microcomputers, ROM, RAM, EPROM, bubble memory and various LSI circuits. Prerequisites: 110-517, 372-518, or equivalents. F

110-595 Seminar 1-2 Cr. Specific content is designed to upgrade competencies of participants. Content will change to reflect current state-of-the-art in electricity/electronics or power mechanics. F-W

110-603 Problems in Power Transmission 3 Cr. Analysis of power transmission problems. Recommendation of alternate solutions including advantages, disadvantages and economic considerations. Prerequisites: 110-240, 110-260, 110-303, 110-348, 110-548 or consent of instructor. W

110-614 Transmission and Drive Trains 2 Cr. Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Prerequisite: 110-314. W

110-615 Engine Machining and Rebuilding 3 Cr. Rebuilding of four-stroke cycle engines including all necessary precision machining; cylinders, blocks, valve trains and reciprocating parts. Prerequisite: junior standing. F-W

110-622 Automotive Practicum 2 Cr. Troubleshooting and servicing all automobile functions as typically done in an auto service facility. F

110-630 Aviation/Aerospace Studies 3 Cr. Classroom, field and optional flight experiences relating to aviation and aerospace industries; details of space exploration, federal licensing regulations, air traffic control and related career guidance information. F

110-631 Private Pilot's Ground School 3 Cr. Preparation for F.A.A. Private Pilot's Certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. F-W

110-635 Introduction to Flight 2 Cr. Flying a single-engine aircraft: applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.

110-640 Techniques for Network Analysis 3 Cr. Differential equations applied to electric circuit parameters, network equation solutions using digital and analog computers. Prerequisites: 110-204 and 355-255. W

110-695 Automotive Service Experience 2 Cr. Off-campus job in garage or dealership provides skills and knowledge of automotive servicing beyond classroom and laboratory work. W

GRAPHIC COMMUNICATIONS

130-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally

entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

130-100 Communications 2 Cr. Communication concepts of source, message, receiver, feedback and interference studied in the context of communication/information technology. F-W-S

130-103 Communication and Information Technology 3 Cr. Limits and possibilities of various communication components and systems applied to the solution of communication problems in business and industry. Intended for General Business Administration students. Credit not available to students who have completed 130-100. F-W-S

130-110 Drafting 2 Cr. Projection concepts for representing 3-dimensional forms on 2-dimensional surfaces; shape and size description and drafting techniques. F-W-S

130-120 Construction Drafting 2 Cr. Architectural drafting with emphasis on theory and delineation. Drawing media and equipment are utilized in solving problems relating to building construction. F-W

130-140 Graphic Arts 2 Cr. Concepts of reproducing visual images; design and layout, composition, photo conversion, image carriers, image transfer, finishing and binding, and economics of graphic arts. F-W-S

130-180 Hospitality/Living/Institutional Facility Planning 2 Cr. Basic architectural drafting and design content, concepts, media, techniques, and methods to record and communicate ideas and solve problems. F-W-S

130-201 Service Enterprise—Communications 2 Cr. Application of the elements of business and industry in establishment, management and operations of an enterprise organized to provide service to persons, property or equipment. Prerequisite: 130-100.

130-212 Descriptive Geometry 3 Cr. Graphic representation and solution of space problems involving points, lines, planes, intersections, revolutions and vectors. Prerequisite: 130-110. F

130-221 Architectural Design I 3 Cr. Develop graphic simulation techniques and problem-solving abilities; site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems. Prerequisite: 130-110 or 130-180 or consent of instructor. F-W-S

130-234 Interactive Graphics 2 Cr. Interactive graphics in design and drafting: computer, teletype, CRT terminal, digitizer and plotter. Prerequisite: 130-110. F-S

130-246 Typography 2 Cr. Printing and art mediums, photography, layout and keylining, type classification and selection, composition practices, color systems and materials. Lab

work in preparing copy for production. Prerequisite: 130-140 or consent of instructor. F-W

130-251 Composition 3 Cr. Phototypesetting: photo-lettering, text and editing systems; pasteup and copy preparation techniques; copyfitting, word and image processing, telecommunications and interfacing to computer systems. Prerequisite: 130-140 or consent of instructor. F-W

130-290 Mechanics of Solids I 3 Cr. Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress. Prerequisite: 372-221. F-W

130-291 Mechanics of Solids II 3 Cr. Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns. Prerequisites: 130-290, 355-154. W

130-311 Technical Drafting 3 Cr. Drafting concepts and techniques in manufacturing industries; graphic language of orthographic projection for use in design, assembly, manufacturing and sales. Prerequisite: 130-110. F-W-S

130-325 Architectural Design II 3 Cr. Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form. Prerequisite: 130-221. F-W

130-341 Graphic Communications Processes 2 Cr. Offset lithography, relief, screen printing and high contrast photography for general industrial arts teacher. Prerequisite: 130-140. W

130-355 Line and Halftone Photography 2 Cr. High contrast photography in graphic reproduction processes; dealing with line, halftone, duo-tone, and special-effect film negatives and positives. Prerequisite: 130-140 or consent of instructor. F-W-S

130-366 Image Transfer 3 Cr. Preparation of image carriers and printing on paper and other substrates; lithography, flexography, gravure, screen printing, electrostatics, and associated procedures for transferring images from film to substrate; reproducing line and half-tone copy in one or more colors; image/film assembly, step and repeat, multiple page imposition, platemaking, press systems, densitometry, ink, paper problems and quality control. Prerequisite: 130-140 or consent of instructor. F-W

130-370 General Binding 2 Cr. Finishing, fastening, and covering printed materials: mechanical, loose-leaf, wire staple, sewn and perfect binding. Prerequisite: 130-140 or consent of instructor. F-W-S

130-414A Technical Illustration 1 Cr. The presentation of a highly organized approach to learning technical pictorial drawings. Emphasis is on isometric views, inking techniques, and preparation of original art to final product. Prerequisite: 130-212. W

130-414B Technical Illustration 1 Cr. The presentation of a highly organ-

ized approach to learning technical pictorial drawings. Emphasis is on isometric views, inking techniques, and preparation of original art to final product. Prerequisite: 130-212. W

130-414C Technical Illustration 1 Cr. The presentation of a highly organized approach to learning technical pictorial drawings. Emphasis is on isometric views, inking techniques, and preparation of original art to final product. Prerequisite: 130-212. W

130-424 Architectural Technology 3 Cr. Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Prerequisite: 130-110. F-W

130-433 Tool and Die Design 2 Cr. Design and application of jigs and fixtures, selection of tooling materials, tolerancing gauges for checking work, stamping die design and mold design. Prerequisites: 130-311 and 372-325. F

130-475 Printing Economics 3 Cr. Estimating production costs, specification of equipment, production scheduling, facility planning, materials inventory and control, and systems that expedite graphic reproductions. Prerequisite: 130-140. F-W

130-489 Business and Industrial Internship 2-8 Cr. Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: jun-

ior standing or consent of department. F-W-S

230 or 130-593, 372-325 or 130-291, 355-153 or 355-156. W

130-504 Communications and Information Systems 1-3 Cr. Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. Prerequisite: 130-103. F-W-S

130-537 Mechanical Design Drafting 2 Cr. Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings. Prerequisite: 130-311. F

130-513 Technical Rendering 2 Cr. Graphic representation of technical information for professional or public audiences by use of various rendering techniques, mediums and image generation processes. W

130-543 Graphic Arts Production Techniques 2 Cr. The study of techniques associated with the production of two-dimensional printed media, with emphasis on design, production and evaluation, also including client and printer relationships. Prerequisite: 130-366. F-W-S

130-526 Building Construction Specifications 2 Cr. Construction specification organization and basic specification preparation skills; role of specifications in building process and relationship of specifications to other construction contract documents. F-W

130-557 Color Separation 2 Cr. Color separation from reflected and transmission copy; filters and densitometry; direct and indirect photographic color separation methods. Prerequisite: 130-355 or consent of instructor. W

130-527 Site Engineering 2 Cr. Use of surveying instruments, techniques and computation to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage; soil analysis. Prerequisites: 130-110 and Trigonometry. F-W-S

130-592 Mechanics of Machinery I 3 Cr. Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration. Prerequisites: 130-290 and 355-154. W

130-528 Structural Design 3 Cr. Analysis, selection and delineation of concrete, steel and wood structural components and systems in buildings. Prerequisite: 130-291 or 372-325. F

130-593 Mechanics of Machinery II 3 Cr. Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces. Prerequisite: 130-592. F

130-532 Mechanical Design 4 Cr. Analysis and design of machine elements: gearing bearings, shafting and friction devices. Prerequisites: 130-

130-595 Seminar 1-2 Cr. (Title will reflect specific graphic and industrial communication content). Current

and projected communication methods, concepts, technologies and innovations in graphic communications. S

130-629 Land Use Planning 3 Cr. Area planning; problems in design of building complexes; exterior space, land use, relationships between buildings and supporting facilities; contemporary regional and city planning and its historical roots. Prerequisite: 130-325. F-W

130-636 Computer Assisted Design Problems 2 Cr. Computers in drafting and plotted design, design automation, mechanical design problem analysis for computers, mathematical and simulation models. Prerequisites: 130-230 and 354-141. W

140-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

140-270 Selected Driving Techniques 1 Cr. Preparation for certification in driving courses offered by state governmental agencies and National Safety Council: Driver Improvement, Defensive Driving, Motorcycle Operators and School Bus Drivers.

140-271 Safety Principles and Practices 3 Cr. Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public,

farm, industrial, school, recreational and civil defense. FE

140-375 Driver and Traffic Safety 3 Cr. Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration. FO

140-377 Driver Education Laboratory Methods and Techniques 3 Cr. Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple-student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided. SO

140-378 Administration of Driver/Traffic Safety Education 2 Cr. Organizational and administrative function of driver and traffic safety education programs; teacher certification, state approval forms, budget, public relations, scheduling and evaluating specific programs.

140-574 Alcohol, Drugs and Accident Prevention 2-3 Cr. Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers. SO

140-575 Behavioral Approach to Accident Prevention 2-3 Cr. Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior. SE

140-577 Driver Improvement Programs 2 Cr. Driver improvement

through educational methodology, curriculum planning and research; adult, mentally retarded, orthopedically handicapped, chronic violator and accident repeater programs. Prerequisite: six semester hours in Safety coursework.

140-580 Driver Education for the Handicapped 2-3 Cr. Curriculum content, instructional methods and techniques, legal implications, driving aids and financial assistance; lab work in teaching handicapped people to drive. S

140-581 Principles of Occupational Safety 2-3 Cr. Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources and problems of selecting corrective action. Prerequisite: junior standing. F-W-S

140-583 Voluntary OSHA Compliance 2-3 Cr. Implications of Federal Occupational Safety and Health Act of 1970 on industrial operations, systematic self-inspection and compliance procedures. F-S

140-584 Safety Engineering Standards 2 Cr. Analysis of legal and voluntary industrial workplace standards and regulations. F

140-586 Fire Protection/Prevention 3 Cr. Behavior of fire: chemistry, protection, prevention and control. W

140-587 Human Factors Engineering 3 Cr. Man's physiological and psychological abilities in man/machine interface, working performance, reliability,

comfort and safety; effective design of man and work environment as a cybernetic system. Prerequisites: 479-110, 354-130 or consent of instructor. F

140-588 Construction Safety 2 Cr. Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. F-W

140-589 Fleet Safety Management 2 Cr. Controlling loss associated with motor fleet operations: selection, training and supervision of commercial drivers; regulatory controls. W

140-590 Products Liability 2 Cr. An analysis of products liability losses, laws and controls. W

INDUSTRIAL MANAGEMENT

150-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

150-X97 Field Experience 1 Cr. F-W-S

150-X98 Field Experience 2 Cr. Off-campus work and study in an approved position to better understand

business and industrial concepts and practices. F-W-S

150-115 Understanding Business and Industry 2 Cr. Concepts, functions, and interrelationships of various subdivisions of service and production organizations. F-W

150-150 Industrial Organization 2 Cr. Basic functions and interrelationships of major subdivisions of industrial organizations. F-W

150-200 Production Management 3 Cr. A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting. F-W-S

150-304 Principles of Business Management 3 Cr. Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in his social setting, comparative management; and management and the future. F-W-S

150-450 Maintenance Management 2 Cr. Organization and management of facilities management system: administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems, project control and cost control for maintenance operations. F-W-S

150-489 Business and Industrial Internship 2-8 Cr. Off-campus work and

study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: junior standing or consent of department. F-W-S

150-500 Engineering Economy 2 Cr. Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. F-W-S

150-501 Seminar 1-2 Cr. (Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. F-W

150-505 Product and Inventory Control 3 Cr. Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system. Prerequisite: 150-200 or 354-130 or 354-530. F-W

150-510 Production Processing 3 Cr. Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisite: 150-200. F-W

150-514 Industrial Enterprise Practicum 3 Cr. Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product. Prerequisite: 150-115 or 150-150. F-W-S

150-520 Quality Assurance 3 Cr. Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance. Prerequisites: 150-200, 354-130 or 354-530. F-W-S

150-530 Material Handling 3 Cr. Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings. Prerequisite: 150-200. F-W

150-540 Time and Motion Study 3 Cr. Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques and principles of motion economy. Prerequisite: 150-200. F-W-S

150-550 Plant Layout 3 Cr. Principles and methods of solving plant layout and material handling problems. Prerequisite: 150-200. F-W

150-570 Estimating and Analyzing Construction Costs 3 Cr. Estimating and analyzing material, man-hours, equipment, methods of construction, overhead and profit and submitting these factors in the form of a bid. Prerequisites: 150-X98 and junior standing. F-W

150-600 Organizational Leadership 3 Cr. Supervisor's role in attaining organizational objectives through human resources management; supervisory skills of communication, motivation, initiation of change, discipline, delegation and grievance

handling developed on basis of organizational and individual behavior concepts. Prerequisite: senior or graduate standing. F-W-S

150-605 Production and Inventory Control Practicum 2 Cr. Application of principles and techniques learned in 150-505 as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-505.

150-620 Quality Assurance—Practicum 2 Cr. Application of principles and techniques learned in 150-520, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-520.

150-630 Quality Circles 2 Cr. Background and history of participative management in Japan and America, orientation as to the structure and sequential development of quality circles, industrial quality control data gathering techniques, problem solving methods, organizational politics, and meeting management methods simulated and analyzed. S

150-640 Time and Motion Study Practicum 2 Cr. Application of principles and techniques learned in 150-540, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-540.

150-650 Introduction to Operations Research 3 Cr. Business and industrial applications of operations research techniques using linear programming, decision models and Monte Carlo methods; problem applications in allocation, sequencing, waiting lines and competitive strategies. Prerequisite: 150-200. W

150-660 Industrial Management 2 Cr. Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Prerequisite: senior standing. S

150-670 Systems Approach to Construction Management 3 Cr. Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisite: 150-570. F-W

150-680 Production Management Practicum 2 Cr. Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. Prerequisite: consent of instructor. F-W

BUSINESS ADMINISTRATION

160-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

160-X98 Business Administration Field Experience 2 Cr. Off-campus work and study in an approved position to better understand the challenges of being an effective manager. F-W-S

160-100 Introduction to Business Administration 1 Cr. Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities. Prerequisite: consent of instructor or Business Administration major. F-W

160-105 Fundamentals of Financial Accounting 2 Cr. Introduction to financial accounting concepts including financial statements, depreciation, inventory cost flow, accounting cycles, balance sheets, ratio analysis and budgets. (Not for Business Administration majors.) F-W

160-206 Accounting I 3 Cr. Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, sole proprietorships and partnerships. Prerequisite: sophomore standing. F-W-S

160-207 Accounting II 3 Cr. Development of basic accounting theory from 160-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements. Prerequisite: 160-206. F-W-S

160-230 Small Business Management 3 Cr. Introduction to the various aspects of business management, especially at the level of small business. Prerequisite: junior standing. F-W

160-231 Fundamentals of Industrial Marketing 2 Cr. An examination of the industrial marketing place. Em-

phasis is placed upon understanding the unique characteristics of the industrial marketing environment and developing an understanding of how these characteristics are integrated into an industrial marketing program. Prerequisites: 320-201 or 320-210 and sophomore standing.

160-232 Fundamentals of Marketing 2 Cr. Overview of basic functions of marketing, including product development, promotion, distribution, market research and pricing. Not available for students who have completed 160-330. Prerequisite: 320-201 or 320-210. F-W-S

160-310 Management Information Systems 2 Cr. Improving the practice of management through the design and utilization of management information systems. An information system aids management in making, carrying out, and controlling decisions. Prerequisite: 150-200 or 160-304. F-W

160-312 Cost Accounting 3 Cr. Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting. Prerequisite: 160-207. F-W

160-318 Business Law I 3 Cr. Introduction to law, contracts, agency nature and types of negotiable instruments. Prerequisite: junior standing. F-W-S

160-319 Business Law II 3 Cr. A continuation of Business Law I; includes security devices, insurance, agency, employment, partnerships, corporations, real property, estates and bank-

ruptcy, government and business; a study of the effect of the Uniform Commercial Code on the above-mentioned areas of business law. Prerequisite: 160-318. S

160-320 Income Tax Accounting 3 Cr. Principles for determining taxable net income; computation of federal and state income taxes for individuals, partnerships and corporations. Prerequisite: 160-206.

160-323 Retail Merchandising and Management Retail sales promotional techniques: display, layout, retail and cooperative advertising, mathematics of merchandising. Retail management problems: store location, types of goods stocked, inventory financing, credit operation. Prerequisite: 160-330. F

160-330 Principles of Marketing 3 Cr. Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint. Prerequisite: 320-201 or 320-210. F-W-S

160-331 Business Practicum/Marketing 2 Cr. Approved marketing position with Campus Industries to better understand how major elements of marketing function and interrelate. Prerequisite: 160-330 or junior standing.

160-334 Salesmanship and Sales Management 3 Cr. Concepts of selling: locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining

goodwill. Sales organizations: recruitment, selection, training compensation and cost control methods. Prerequisite: 160-330. F-W-S

160-335 Managerial Accounting 3 Cr. Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Data presented without mechanical techniques. Prerequisite: 160-207. F-W

160-336 Industrial Marketing Management 3 Cr. Examination of the industrial marketing place with emphasis on unique characteristics of the industrial marketing environment. Special emphasis on case study analysis and discussion. Prerequisite: 160-330. F

160-337 Purchasing 3 Cr. Exploration of decision making process used in purchasing goods and services; procurement process, paper flow, economics of purchasing and legal aspects. Prerequisites: 150-200 and 160-330.

160-340 Business Finance 3 Cr. Principles of planning, raising and controlling short- and long-term funds for large or small corporate or non-corporate business enterprises; financial aspects of promotion and organization, sources of financing and administration of income; failure and reorganization. Prerequisite: 160-207. F-W-S

160-341 Business Practicum/Finance 2 Cr. Approved finance position with Campus Industries to better under-

stand how major elements of finance function and interrelate. Prerequisites: 160-340 and junior standing.

160-351 Business Practicum/Supervision 2 Cr. Approved supervisory position with Campus Industries to better understand how major elements of supervision function and interrelate. Prerequisites: 479-582 and junior standing.

160-355 Principles of Risk Management 3 Cr. An overview of the role of management of risks in business with emphasis on identification of risks and evaluation to determine methods of handling them. We will consider all methods with emphasis on insurance. Prerequisite: junior standing. F

160-365 Principles of Real Estate 2 Cr. Real estate law, importance of real estate, nature of real property, interests in real estate, historical background, estates, how created, types of ownership, descriptions, real estate contracts, transfer of title, title records, lease and zoning.

160-370 Principles of Advertising 3 Cr. Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business. Prerequisite: 160-330 or consent of instructor. F-W-S

160-410 Manufacturing Cost Analysis 3 Cr. Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer. Prerequisite: 160-206 or 160-400. F-W

160-438 Industrial Distribution 3 Cr. Industrial distribution channels and strategies involved in determining specific channel objectives; channel structure; procedures regarding physical distribution of goods through selected channels; control and evaluation of the adopted channels. Prerequisite: 160-336.

160-461 Business Practicum/Management 3 Cr. Approved management position in Campus Industries to better understand how major elements of management function and interrelate. Prerequisites: 160-331 or 160-341 or 160-351 and senior standing.

160-489 Business and Industrial Internship 2-8 Cr. Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: junior standing or consent of department. F-W-S

160-520 Seminar 1-3 Cr. Current topics in business. (Title will reflect specific business content.)

160-573 Legal Aspects of Construction 3 Cr. Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker. F

160-601 Legal Environment of Business 2 Cr. Changing relationship of government and industry: regulatory legislation, administrative agencies,

national policies and social control. F-W

160-679 Marketing Research 3 Cr. Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. Prerequisites: 160-330 and 320-325. F-W

160-690 Administrative and Business Policies 3 Cr. Integrates previous business studies, develops ability to solve business problems through scientific approach to decision-making. Business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel and public relations functions. Prerequisites: 160-330 and 160-340 and senior standing. F-W

MATERIALS AND PROCESSES

170-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

170-101 Processes—Concepts 3 Cr. Concepts and applications of industrial processes: forming, shaping,

molding, casting, joining and finishing of common materials. F-W

170-202 Metals 2 Cr. Introduction to metals in machining, welding, casting and metal forming; fundamental operations and related technical information. F-W

170-205 Design for Industry 2 Cr. Industrial research and product development; problems in manual, semi-automatic and automatic production using various materials and processes; development and application of systems for selection of materials and processing. Prerequisite: 170-101. F-W

170-209 General Finishing 2 Cr. Technical information and application of finishes to various materials. Color theory, spraying, baking, drying, polishing, spot finishing, and re-finishing. Prerequisite: 170-101 or 170-202.

170-210 Materials of Industry 3 Cr. Characteristics and processing requirements of common industrial materials; material properties, property modification, processing characteristics and testing criteria of the four material families; material identification, selection, utilization and testing (intended for General Business Administration students). F-W

170-222 Industrial Ceramics 3 Cr. Glasses, construction materials, abrasives, whitewares, refractories, enamels, electronic and nuclear products. Lab work to correlate applications, material properties and production methods. F

170-230 Machine Shop I 2 Cr. Operation of engine lathe, drill press, milling machine, grinder and shaper; fundamental uses of hand tools and related technical information. Prerequisite: 170-101 or 170-202. F-W

170-240 Basic Woodworking 1 Cr. Elementary woodworking: hand tools, hand operations and basic machines; fasteners and wood joints. W

170-241 Machine Woodworking 2 Cr. Wood industry materials and equipment; job planning, organizing and preparation; principles of wood and allied material processing. Prerequisite: 170-101. F-W

170-250 Plastics I 2 Cr. Plastics industry materials and processes; characteristics and properties of thermoplastic and thermosetting materials and processing equipment. Prerequisite: 170-101 or 170-202. F-W

170-260 Sheet Metal 2 Cr. Machine and hand tool operations, pattern development, fabrication, and related information; materials, equipment and supplies. Prerequisite: 170-101 or 170-202. W

170-270 Light Building Construction 2 Cr. Residential and small commercial structure construction: terminology, materials, tools and equipment. Prerequisite: 170-101 or 170-202. F-W

170-275 Construction Materials 2 Cr. A study of the origin, composition, and basic nature of primary materials of construction (woods, metals, plastics, brick, tile, rock, stone, cement, and glass). Secondly, the selection,

specifying, and recommended application procedures of materials with respect to standards and codes. F-W

170-280 Packaging Fundamentals 2 Cr. Relationship to marketing and consumer behavior, control through legal and industrial regulations, function within larger organization, roles of professional engineer, packages and their function. F-W

170-301 Technology, Resources, Environment 2 Cr. Relationship between rate of resource use and environmental degradation; possible consequences of present resource consumption patterns; pursuit of ecologically sound resource consumption patterns more appropriate to presently known available resources. F-W

170-304 Industrial Crafts 2 Cr. Craft industries: tools, processes, products from leather, fiber, metal, plastics, glass, plaster, ceramics, and wood materials. Lab work. F-W

170-308 Surface Coatings and Treatments 2 Cr. Application of color theory, color mixing, painting, graining, stenciling, marbling, mottling, strippling, texturing, dry wall construction, and interior design. Prerequisite: 170-209.

170-313 Wood Technology 3 Cr. Forest management; wood structure, properties, defects, modifying and bonding; testing procedures and trends in wood-based industries. Prerequisite: 170-101. F-W

170-315 Packaging Materials 3 Cr. Origin, composition, properties and

application of packaging materials; lab work in packaging and materials testing methods. Prerequisite: 170-280. F-W

170-331 Machine Shop II 2 Cr. Advanced shop practice; sharpening of lathe tools, twist drills, milling cutters, taper turning, grinding externally and on flat surfaces. Gear cutting on milling machine. Heat treating and layout techniques. Prerequisite: 170-230 or consent of instructor. F-W

170-333 Machine Shop III 2 Cr. Spiral milling, tool making, and cutter grinding, cylindrical grinding, maintenance. Prerequisite 170-331 or consent of instructor. F-W

170-344 Cabinet Work 2 Cr. Problem solving, materials testing and advanced technical information; major cabinetmaking project. Prerequisite: 170-241. F-W

170-346 General Woodworking 2 Cr. General unit shop organization, upholstery and wood turning; organizing and presenting content in woodworking as it relates to total Industrial Arts program. Prerequisite: 170-101. W

170-357 Patternmaking—Foundry Practice 3 Cr. Design and construction of patterns for metal casting; foundry practices in production of metal castings using selected patterns and foundry techniques. Prerequisite: 170-101 or 170-202. F-W

170-365 Welding I 2 Cr. Fundamentals of electric arc and oxy-acetylene welding processes in the flat position;

manufacture and handling of gases; selection and types of equipment; routine maintenance, types of electrodes, coatings applications. Prerequisite: 170-101 or 170-202. F-W

170-370 Commercial Building 2 Cr. Structural building systems and related mechanical installations. Prerequisite: 170-270. F-W

170-372 Heating and Air Conditioning 3 Cr. Heating, heat energy, heating systems, calculation of heating loads, heating drawings, burners and control systems. W

170-380 Packaging Systems 3 Cr. Packaging from design through production; lab work on structural design, sample making and package evaluation. Prerequisite: 170-280. F-W

170-385 Packaging Machinery 3 Cr. Equipment that measures, forms, fills, seals, cartons, cases, uncases and labels; functional capabilities of speed, material characteristics, carton size and operating characteristics. W

170-401 Solid Waste Technology 3 Cr. Solid wastes and processing technology; recovering some economic benefits.

170-403 Secondary Resource Systems Management 3 Cr. Economic, social, legal, political and administrative aspects of resource recovery/waste disposal; analysis of resource recovery systems; current issues, needs and policies; assessment methods; public and private sector differences and pol-

icy approaches. Prerequisite: 170-401 or consent of instructor.

170-480 Packaging Design and Evaluation 3 Cr. Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation. Prerequisite: 170-380. F-W

170-489 Business and Industrial Internship 2-8 Cr. Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Prerequisite: junior standing or consent of department. F-W

170-504 Computer Aided Manufacturing 3 Cr. Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Prerequisites: 170-101, 170-202 and 354-141 or consent of instructor. F-W

170-505 Robotics 2 Cr. Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling. Prerequisites: 170-101, 170-202 and 354-141 or consent of instructor. F-W

170-506 Maintenance of Processing Equipment 3 Cr. Recondition, identify and correct common malfunctions of hand and power woodwork-

ing and metalworking equipment; manufacturers' performance specifications, cutting tool specifications and preventive maintenance schedules; selection of hand tools, power equipment, measuring instruments and safety devices. F-W

170-515 Metallurgy 3 Cr. Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Prerequisite: 311-115. F-W

170-537 Numerical Control in Manufacturing 1-3 Cr. Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Prerequisite: 170-101 or 170-202. F-W

170-559 Foundry Seminar 1-2 Cr. Metallurgy principles relating to casting processes; sand testing, phasing diagrams, fluid mechanics, gates, risers, gating systems, inspection, non-destructive testing.

170-560 Aircraft Construction Workshop 1-3 Cr. Thorough study of proved plans precedes completion of assignments in fabrication of parts, assembly, rigging, powering and finishing full-scale aircraft. Prerequisite: consent of instructor or degree in Industrial Education. S

170-565 Welding II 2 Cr. Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365. W

170-570 Mechanical Systems 2 Cr. Plumbing and electrical requirements for residential and commercial buildings. Prerequisite: 170-370. W

170-575 Building Construction Practicum 2-4 Cr. Technical information, construction problems and actual development of light residential structure. Prerequisite: 170-270. S

170-580 Packaging Development 3 Cr. Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer. Prerequisite: 170-480. F-W

170-585 Packaging Seminar 2 Cr. Current packaging problems or developments (subject based on students' interests and current issues). Prerequisite: junior or senior standing in Packaging. F-W

170-595 Seminar 1-2 Cr. (Title will reflect specific materials and processes content.) Designed to upgrade effectiveness of teachers or secondary school materials and processes content.

170-637 Numerical Control II—Continuous Path Controls 3 Cr. Application of computer for generating programs to machine curved,

nonsymmetrical surfaces; mathematical concepts of N/C; interpolation of surfaces between points by straight line or logarithmic methods, writing computer programs and proving problems. Field trips to industries using numerical control equipment. Background in machining, computer programming recommended. Prerequisite: 170-537.

INDUSTRIAL TEACHER EDUCATION

190-X49 Cooperative Education Experience 3-8 Cr. Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. F-W-S

190-160 Introduction to Industrial Education 2 Cr. An introduction to current programs, facilities and opportunities in teaching industrial arts, vocational, technical and adult education. Students develop personal goals, complete program plan sheets, visit schools and work as teacher aides. F-W

190-205 Methods of Teaching Industrial Education 2 Cr. Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentation with video tape equipment; methods of organization and management; instruction aids; professional ethics. Prerequisite: 190-160. F-W-S

190-390 Laboratory/Classroom Management in Industrial Education 2 Cr. An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in contemporary programs. Prerequisite: 190-160. F-W-S

190-404 Curriculum Development 5 Cr. Development of orderly procedure for identification of concepts; generalizations and instructional units to be used in teaching; course outlines, analysis of content, lesson planning, evaluation, management. Prerequisites: 190-205 and 421-303.

190-405 Curriculum Development in Industrial Education 2 Cr. Study of curriculum terminology and methods of selecting and organizing content for industrial education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in industrial arts or vocational education. Prerequisites: 190-160 and 190-205. F-W-S

190-406 Instructional Evaluation in Industrial Education 2 Cr. For industrial arts and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction. Prerequisites: 190-205 and 190-404. F-W-S

190-408 Student Teaching 8 Cr. Directed teaching and community experiences in selected off-campus schools. Prerequisites: 190-404 and overall GPA of 2.25, satisfactory health, speech and English F-W

190-488 Internship Teaching 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 190-404. F-W

190-505 Sport Aviation Seminar 1-3 Cr. Organizational patterns, available alternatives, and recommended procedures for incorporating full-scale aircraft construction in schools.

190-533 Shop Planning and Equipment Selection 2 Cr. School shop facility planning: equipment selection, placement, care and management. Prerequisite: 190-405, or equivalent.

190-600 Rationale for American Industry 2 Cr. A study of the place and function of American Industry in the total school curriculum.

190-606 Learning Activities Industrial/Vocational Education 2 Cr. A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-631 Field Trips to Industry 1-3 Cr. Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

190-637 School Shop Organization and Management 2 Cr. Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205. S

190-638 Course Construction 2 Cr. Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package and/or unit of instruction. W-S

195-300 Technology 3 Cr. Development, levels, types, processes, influences and control of technology; significance of technology in students' lives and its effect on decision-making processes in technological society. F-S

195-500 Evolution of Technology 2 Cr. Contemporary technology: how things got to where they are, and where they might go from here. Relationships between mechanical and social inventions and technology's role in human and institutional behavior.

195-520 Technological Advances—Fast Forward I 2 Cr. Outlines industry's rapid advancements in high tech-

nology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. F-S

195-521 Technological Advances—Fast Forward II 2 Cr. Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. W-S

195-532 Futures of Technology 2 Cr. Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. F

MARKETING AND DISTRIBUTIVE EDUCATION

196-201 Introduction to Distributive Education 3 Cr. The field of distributive education; historical development, role in vocational education, career opportunities, certification requirements, and current trends. F-S

196-202 Supervision of Distributive Education Clubs 3 Cr. Organization of a DECA chapter, the administration of activities, and the design of competitive events, including "Program of Work" development, school and model store organization, and integration of DECA into the curriculum. Prerequisite: 416-201. F

196-301 Methods in Distributive Education 4 Cr. Methods and materials of distributive education: projects, individualized instruction, programmed instruction, demonstration, instructional resource materials, and laboratory equipment. Prerequisite: 416-201. S

196-401 Distributive Education Curriculum 3 Cr. Developing distributive education curriculum for secondary and post-secondary programs. Prerequisite: 416-301. S

196-408 Student Teaching—Distributive Education 8 Cr. Directed teaching and community experiences in selected off-campus schools (quarter). Prerequisites: 416-201, 416-301, 416-401, 469-560. S

196-501 Simulation in Distributive Education—Model Stores 3 Cr. Designed to develop methods, techniques, questions, activities and resources that center around teaching distributive education via the project method or model store simulation. Prerequisite: 416-201. F

196-555 Marketing and Distributive Education Seminar 2-3 Cr. Designed to update marketing and distributive education undergraduates and graduates (teacher-coordinators) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and Distributive Education related projects. Will be used to inservice high school teacher-coordinators and VTAE marketing teachers.

INDUSTRIAL TRAINING

198-550 Introduction to Industrial Training 2 Cr. Philosophy, career opportunities, status of training programs, curriculum and program development, methods and evaluation, overview of facilities. F-W-S

198-560 Training Systems in Business and Industry 3 Cr. Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. S

VOCATIONAL EDUCATION

199-502 Principles of Vocational/Technical/Adult Education 2 Cr. Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level. F-W-S

199-534 Task Analysis 2 Cr. Analysis techniques utilized in curriculum development. Emphasis on task analyses and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. F-S

199-541 Computer Generated Curriculum—Decal 2 Cr. Introduction to DECAL (Digital Equipment Corpo-

ration Author Language) programming and its inter-relationship to curriculum. DECAL program writing and editing for lessons and quizzes. Use of related student report files.

199-546 Seminar 1-3 Cr. Current topics in vocational, technical and adult education with application for personnel in the field. Prerequisite: consent of instructor.

199-560 Cooperative Occupational Education Programs 2 Cr. Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. Prerequisite: 469-502. F-W-S

199-580 Computer Aided Instruction in Vocational Education 2 Cr. Applications of the computer in managing vocational, technical and adult education classrooms and laboratories. Utilization of computers in course preparation, evaluation and methods of teaching. Use of existing software and the evaluation of it. Prerequisite: consent of instructor or computer literacy course.

199-605 Methods of Teaching Vocational Education 2 Cr. Competency-based and individualized approach to methods of teaching vocational education. Prerequisite: 199-501. F

199-611 Individualized Instruction in Practical Arts and Vocational Education 2 Cr. Individualizing instruction as an alternative to conventional methods, organization and evaluation of teaching; especially helpful to

teachers in vocational education and practical arts.

199-638 Course Construction for Vocational Educators 2 Cr. Competency-based and individualized approach to principles of course construction for vocational educators. Prerequisite: 199-501. F

199-640 Instructional Evaluation in Vocational Education 2 Cr. Competency-based and individualized approach to instructional evaluation for vocational educators. F

199-674 Adult Education 2 Cr. Philosophy and history of adult education in the U.S. Techniques for teaching adults; psychological factors, methods, adult interests and characteristics.

HOME ECONOMICS

INTERDEPARTMENTAL

200-295 Career Exploration in Home Economics 1 Cr. Career expectations and developmental needs of individuals and organizations/institutions in home economics. F

200-395 Issues in Home Economics 1-2 Cr. Home economics issues encountered in pursuit of improved quality of life.

HUMAN DEVELOPMENT AND FAMILY LIVING

212-100 Introduction to Early Childhood Programs 1 Cr. History, types of programs and staff requirements in early childhood professions. F-W

212-101 Introduction to Child Development and Family Life 1 Cr. Fields of child development and family relationships as an intrinsic part of home economics; occupational opportunities in programs serving families and children. F-W

212-124 Child Development I 3 Cr. Developmental study of the child from conception through adolescence: physical, intellectual, social and emotional growth; observation required. F-W

212-160 Learning Environments for Young Children 1-2 Cr. Establishment and maintenance of safe and healthy learning environments for young children.

212-161 Physical/Intellectual Competence in Young Children 1-2 Cr. Methods of facilitating physical and intellectual competence in young children.

212-162 Fostering Self-Growth in Young Children 1-2 Cr. Building self-concept and individual strengths in young children.

212-163 Adult/Child Interaction 1-2 Cr. Organizing and sustaining posi-

tive functioning of children and adults in learning environment. F-W

husband-wife, parent-child relationships. F-W

212-164 Coordination of Home and Center Practices 1-2 Cr. Coordination of home and center child-rearing practices and expectations.

212-251 Early Years of Marriage 1 Cr. Presentation and evaluation of adjustments, goals and processes of the early years of marriage. F-W-S

212-165 Supplemental Services Coordination 1-2 Cr. Carrying out supplementary responsibilities related to children's programs.

212-264 Child Guidance 2 Cr. Principles of child guidance; evaluation of literature and application of studies to children; observation of young children. F-W

212-167 Curriculum Design for Young Children 1-2 Cr. Methods of designing and implementing curriculum for young children.

212-265 Child Guidance Practicum 1 Cr. Supervised participation in Child and Family Study Center or similar center; guidance techniques and understanding of children. Prerequisite: 212-264. F-W-S

212-168 Fostering Language Development in Young Children 3 Cr. Methods and techniques of fostering language development in young children. F-W

212-303 Language Arts and Social Science—Early Childhood 2 Cr. Development of methods and techniques for teaching language arts and social studies to young children: effective social and communication skills and experiences. Prerequisite: 212-204. F-W

212-204 Teaching/Learning Strategies in Early Childhood 5 Cr. Program management, classroom arrangement, guidance principles, sensory stimulation, enhancement of self and creative expression with young children. Prerequisites: 212-124 and 212-264. F-W

212-333 Science and Mathematics—Early Childhood Education 2 Cr. Directed study of application of skills for teaching mathematics and science concepts to young children: organization and presentation of teaching/learning experiences for children in early learning situations. Prerequisite: 212-204. F-W

212-235 Child Development Laboratory 1 Cr. Observation and/or participation in early childhood program. May be repeated for different experiences. Prerequisite: 212-124. Repeatable for credit. F-W

212-342 Creative Activities for Young Children 3 Cr. Curriculum, methods and materials for music, art and creative movement activities for young children. Prerequisite: 212-124 or 212-264. F-W

212-250 Individual and Family Relations 3 Cr. Dynamics of social-psychological forces affecting family interaction. Explorations of courtship,

- 212-350 Dynamics of Family Development 3 Cr. A study of the family with emphasis on environmental factors significant in marriage and family relationships. Prerequisite: 212-250. F-W
- 212-351 Death and the Family 1 Cr. Current literature concerning how families deal with the death of a member; how adults can help children cope with death in the family, how other family members deal with death of older and younger family members. F-W
- 212-352 Parenthood 1 Cr. Presentation and evaluation of current knowledge about parenthood; effects of parenthood on parents. F-W-S
- 212-380 The Family in Later Life 1 Cr. Overview of theory and research on older couples and families along with issues and problems facing late-life families. Prerequisite: 212-250 or consent of instructor. W
- 212-401 Issues in Child Development and Family Life 1 Cr. Issues related to profession in the areas of Child Development and Family Studies. Prerequisite: junior standing in CDFL program. F
- 212-407 Parent Education/Involvement 2 Cr. Parent groups: training of leaders, survey of literature. Practicum with parent groups. Prerequisite: 212-264. F-W
- 212-408A Student Teaching in Preschool Programs 4 Cr. Directed teaching and community experience in selected early childhood centers. Prerequisite: 212-333. F-W
- 212-408B Student Teaching in Kindergarten 4 Cr. Directed teaching and community experience in selected kindergartens. Prerequisite: 212-303. F-W
- 212-409 Clinical Seminar in Preschool Programs .5 Cr. Seminar concurrent with student teaching in Child and Family Study Center or other preschool program. F-W
- 212-411 Clinical Seminar in Kindergarten Education .5 Cr. Seminar concurrent with student teaching in kindergarten. F-W
- 212-420 Theories of Early Childhood Education 2 Cr. Early childhood education: evolution, theories and principles of current programs, and development of individual philosophy. Prerequisite: 212-408A. F-W
- 212-433 Reading in Early Childhood Education 3 Cr. Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood. Prerequisite: 212-333. F-W
- 212-451 Divorce 1 Cr. Evaluation of divorce and trends as part of American family system. Prerequisite: 212-250. W
- 212-488 Intern Teaching 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school

systems for one full semester. Prerequisite: 212-333.

212-524 Child Development II 3 Cr. Empirical study of physical, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264. F-W

212-530 Adulthood and the Family 3 Cr. Study of adults in the family context during the early and middle years. Prerequisites: 212-124, 212-324. W

212-535 Seminar On Self-Growth 2 Cr. Theories of the self; exploration of aspects of self-development and actualization. Prerequisite: 212-350 or 212-524. F-W

212-541 Home-Based Programs in Early Childhood Education 1 Cr. Planning, supervising and implementing a home intervention program for young children and their families. S

212-545 Exceptional Needs and Programming—Early Childhood 2 Cr. Program development and implementation for preschool mentally handicapped children. Prerequisite: consent of department. F-W

212-553 Dual Career Families 1 Cr. The dual career marriage as a form of family life; benefits and problems encountered. F-W-S

212-554 The Single-Parent Family 1 Cr. Description, statistical trends and problems of single-parent families. F-W

212-570 Singlehood 1 Cr. Experiences of singles; singlehood as a phase in life cycle and as a life-style in contemporary society. Prerequisite: 212-250. F-W-S

212-580 Future of the Family 1 Cr. Experimental and utopian family forms; future of the family. W

212-581 Dynamics of Marital Interaction 2 Cr. Patterns of husband/wife power distribution, task differentiation, decision making, communication, role adaptation and marital satisfaction in family life cycle; theoretical analysis of marital behavior within the family as a social system. Prerequisite: consent of instructor.

212-590 Family Research and Methodology 3 Cr. Analysis of family theory, research methodology, and selected topics in family relations. Prerequisites: 212-250 and 212-350. W

212-595 Special Topics in Human Development 1-2 Cr. Special topics in human development. Prerequisite: junior standing. Repeatable for credit. S

212-598 American Study Tour in Child Development 2 Cr. Study tour of child development centers; discussions, lectures by leaders in field of child development. Prerequisite: consent of instructor. S

212-601 Child and Family Law 3 Cr. Legal issues affecting children and families. Prerequisites: 212-250, 212-350 and junior standing. W

212-607 Parent Counseling 2 Cr. Approaches and techniques for working with parents; observation and experience in childrearing problems parents face. Prerequisites: 212-124 and 212-264. W

212-610 Family Impact Seminar 3 Cr. Content, methods and process of assessing impact of public policy on children and families. Prerequisites: 212-250, 212-350, 375-510 or consent of instructor. W

212-615 Family Stress, Coping and Adaptation 1 Cr. Impact of family development and stress on individual and family well-being. Prerequisite: 212-250. S

212-624 Advanced Child Study 3 Cr. A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264.

212-626 Special Topics in the Study of Family Life 1-3 Cr. Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit.

212-637 Seminar in Child Development 2 Cr. Special problems and aspects in child development; preference given to students' interests. Prerequisite: consent of instructor.

212-638 Child Abuse and Neglect 2 Cr. How child abuse and neglect affects the abused/neglected child and the abusing/neglecting family; ways of coping with family and social problems. Prerequisites: 212-124, 212-250 or consent of instructor. F

212-650 Introduction to Marriage and Family Therapy 3 Cr. Conceptual frameworks and approaches to marriage and family counseling. Prerequisite: consent of instructor. F

212-651 Marriage and Family Therapy Seminar 3 Cr. Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. Prerequisite: 212-650 or consent of instructor. W

212-652 Fatherhood 1 Cr. Critical issues surrounding role of the father in today's society. Prerequisite: 212-124 or 212-250.

212-653 Relationship Communication Training 2 Cr. Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work.(Preferably, but not necessarily, have your premarital or marital partner with you.) Prerequisite: consent of instructor. F

212-654 The Workplace and the Family 2 Cr. Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace. Prerequisites: 212-124 and 212-250 or consent of instructor. W

212-660 Current Topics in Sexuality 1 Cr. Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250. F-W-S

212-664 Special Topics in Early Childhood Curriculum 1-3 Cr. Philosophy and methodology of early childhood education: problems confronting teachers. Prerequisite: 212-303. Repeatable for credit. S

212-665 Administration—Early Childhood Education Programs 2 Cr. A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. Prerequisite: 212-408B. F-S

212-666 Family Planning 1 Cr. Factors influencing family planning; knowledge and services for effective family planning practice. Prerequisite: one undergraduate course in family relations.

212-680 The Aging Person 2 Cr. Characteristics and needs of aged members of society; intergenerational relationships of family members. F-W

212-685 Seminar—The Culturally Distinct Child and Family 3 Cr. Study of ethnic, racial, cultural and economic influences on the child and family in the United States. Emphasis on improving human interactions. Prerequisite: 212-324 or 212-350. F-W

212-690 Death Education and Counseling in Families 2 Cr. Death and dying theory; research, practice and application in education and individual and family counseling. Prerequisite: 212-351 or consent of instructor.

212-693 Practicum in Child Development and Family Life 4-8 Cr. Practicum experiences in child develop-

ment, family relationships and human resource management within a community agency, business or organization. Prerequisite: consent of instructor. F-W-S

CLOTHING AND TEXTILES

214-109 Applied Design for Family Living 2 Cr. Identification and application of design elements and principles to specific areas of home economics. F-W

214-110 Principles of Apparel Design 1 Cr. Elements and organization of design in contemporary apparel for men and women. F-W

214-120 Introduction to Apparel/Textiles/Merchandising 2 Cr. Careers in fashion merchandising, clothing and textile industries terminology; professional and personal development. F-W

214-140 Textiles 3 Cr. Selection, use and care of clothing and household fabrics: analysis of their components. Special course fee. F-W

214-225 Clothing and Textile Industry 3 Cr. Organization, promotion methods, and interrelationship of textile and clothing industries; consumer demand and diffusion of fashion. Prerequisite: 214-140. F-W

214-227 Basic Merchandising 3 Cr. Merchandising in department, specialty and discount stores; marketing strategies, operations, buying, trend

merchandising, and fundamentals for apparel and hardlines. Prerequisite: 214-120. F-W

214-266 Apparel Construction 3 Cr. Construction theory and principles of fitting applied to garment construction. Recommended: 214-140. F-W

214-268 Outdoor Apparel and Equipment 2 Cr. Selection, construction, and maintenance of outdoor apparel and fabric equipment. F

214-274 Apparel Manufacturing 3 Cr. Production planning, quality control and analysis of apparel industry. Prerequisites: 214-266, consent of instructor. F-W

214-280 Flat Pattern 3 Cr. Develop paper patterns by varying a master pattern. Original garments are designed and constructed. Prerequisite: 214-266.

214-319 Economics of Clothing 3 Cr. Clothing analysis as it affects the individual; socially, psychologically and economically.

214-326 Professional Mini Encounter .5 Cr. In-store observation and participation with specific executive personnel for 2-day periods. Prerequisites: 214-227 and 214-298, or equivalent, (can be concurrent). F-W

214-327 Ready-To-Wear Merchandising 2 Cr. Techniques for maximizing volume and profit within predetermined market objectives, covering major ready-to-wear groupings. Special

course fee. Prerequisites: 160-206, 214-120 and 214-225. F-W

214-329 Fashion Merchandising Promotion 3 Cr. Application of fashion merchandising promotion procedures: display, oral and written promotional communication, and publicity. Special course fee. Prerequisite: 214-227. F-W-S

214-330 Home Furnishings Merchandising 2 Cr. Home furnishings merchandised by primary types of retail outlets. Prerequisites: 214-225 and 214-227. F-W

214-366 Pattern Adjustment and Fit 2 Cr. Theory and techniques of selecting, measuring and adjusting patterns; application of fitting problems to individual figure. Prerequisite: 214-266 or consent of instructor. F-W

214-367 Pants—Adjustment and Fit 1 Cr. Theory and techniques of drafting and adjusting pants patterns; application of fitting problems to individual figure. Prerequisite: 214-366 or concurrent registration. W

214-368 Experimental Clothing 3 Cr. Application of problem-solving techniques in designing and constructing garments using client approach. (Students in this course will not receive credit for 214-466 or 214-566). Prerequisites: 214-110, 214-140 and 214-366. F

214-374 Apparel Manufacturing Laboratory 2 Cr. Practical application of concepts and procedures involved in the manufacture of marketable apparel products. Not available to stu-

dents who have completed 214-272 Industrial Sewing. Prerequisite: 214-274.

214-375 Grading Apparel Patterns 2 Cr. Develop grading charts. Proportionately change patterns to produce size ranges for various figure types. Prerequisite: 214-266. F-W

214-398 Fashion Merchandising Field Experience 2 Cr. Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. Prerequisite: 214-120. F-W-S

214-400 Self-Presentation in Business 1 Cr. Learn and practice skills of self-presentation in business and professional world. F-W

214-402 Undergraduate Clothing and Textile Research 2 Cr. Individual investigation of a specific clothing and textiles interest; correlate clothing and textiles with related fields. F-W

214-419 Textile and Clothing Economics 2 Cr. Economic importance of textile and apparel industries in the U.S. and internationally. Special course fee. Prerequisites: 214-140 and 320-210. F-W

214-426 Fashion Merchandising Practicum 3 Cr. Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment. Prerequisites: 214-227, 214-329 or consent of instructor. F-W-S

214-430 Merchandise Planning and Control 3 Cr. Techniques of merchandising fashion departments: budgeting, assortment planning, managing inventory; buying for resale. Prerequisites: 160-206, 214-227 and any math. F-W-S

214-466 Couture Techniques 2 Cr. Application of couture techniques to apparel: experimentation with unusual fabrics. Prerequisite: 214-266.

214-492 Practicum in Textile Printing 2 Cr. Use of textile design techniques: silk screen, tie dye, printing and batik; emphasis on good design and creativity. Special course fee. Prerequisite: 304-101. F-W

214-525 Men's and Boys' Merchandising 1 Cr. Specialized techniques of merchandising menswear and boys' wear: stock planning, market trends and controls. Prerequisite: 214-327. F-W

214-527 Store Management 3 Cr. Develop management skills for retail stores of varying size. Prerequisites: 214-430 or consent of instructor, senior or graduate standing. F-W

214-529 Fashion Merchandising Internship 8 Cr. Work in prearranged job (advanced position similar to trainee job) provides special opportunity in fashion retailing. Prerequisites: 214-298, 90 credits completed, 3.0 GPA and Fashion Merchandising major. F-W-S

214-529A Fashion Merchandising Internship 6 Cr. Work in prearranged job (advanced position similar to

trainee job) provides special opportunity in fashion retailing. Prerequisites: 214-298, 90 credits completed, 3.0 GPA and Fashion Merchandising major. S

214-541 Fabric Maintenance 2 Cr. Products and methods used in cleaning textile products; compare home and commercial laundry methods and dry cleaning procedures and their effects on textile products. Prerequisite: 214-140. F

214-545 Commercial and Household Textiles 2 Cr. Raw materials, fabric structures, specifications, and legislation related to quality, performance, and maintenance of textiles for commercial and household uses. F

214-550 Textile Evaluation 3 Cr. Problems in fiber identification, fabric performance, and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Prerequisite: 214-140. F-W

214-566 Apparel Construction—Knit and Stretch Fabrics 2 Cr. Principles of knit and stretch sewing; application in garment construction. Prerequisite: 214-266 or consent of instructor.

214-568 Engineered Tailoring 2 Cr. Industrial production methods applied to construction of tailored garments. Prerequisites: 214-266, 214-272. F

214-581 Functional Clothing Design 3 Cr. Application of physical science theory to problems in clothing design: impact protection and thermal bal-

ance of the human body, structural properties of materials, and apparel forms. Prerequisites: 214-368, 214-550, 214-580. F

214-590 Practicum in Textile Design 3 Cr. Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique, and hooking; emphasis on good design and creativity. Prerequisite: 304-101. F-W

214-591 Natural Dyeing and Hand Spinning 2 Cr. Gather dyes from local environment, select mordants, dye fibers; spin dyed fibers on spinning wheels/drop spindles; historic dimensions. S

214-605 European Study Tour 3-6 Cr. Tour of European centers of art, clothing and textiles. Study of the cultural patterns. Six week program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries. S

214-610 History of Costume—Ancient to European 3 Cr. Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume. F

214-611 History of American Costume 3 Cr. Evolution of American costume from colonial times to present; costume characteristics and social, political, religious and cultural influences. W

214-617 Social/Psychological Aspects of Clothing 3 Cr. Social and psychological influence of dress on individual and group behavior patterns. F-W

214-625 Mass Merchandising 3 Cr. History, planning, design and techniques of mass merchandising in shopping centers, discount stores, and franchised and leased operations. Prerequisite: 214-227. F-W

214-639 National Study Tour to Fashion Industry 1 Cr. Five-day visit to New York or alternate city; study hours, discussions and lectures by leaders in American fashion market. Prerequisites: consent of instructor and junior, senior or graduate standing. W

214-645 United States Textile Study Tour 2 Cr. Tour of textile industries in the U.S.: professional visits, lectures and discussions by consultants in textile field. Prerequisite: graduate standing or upper division. S

214-650 Textile Science 3 Cr. Structural aspects of textile fibers, yarns, and fabrics: modification of fibers; fiber and fabric analysis. Prerequisite: 214-140. F

214-655 Recent Developments in Clothing and Textiles 2 Cr. Apparel and textiles explored in light of new developments in these and related fields. Prerequisites: 214-140, 214-266 or consent of instructor.

214-666 Tailoring 3 Cr. Construction of suits and coats using custom tailoring techniques. Prerequisite: 214-266. W

214-670 Theatrical Costuming 3 Cr. Problems in costuming theatrical productions; plan, design and construct

costumes for major theater production, as coordinated by director of production. Prerequisite: 214-266 or consent of instructor.

214-680 Draping 3 Cr. Application of draping principles in design and construction of garments; emphasis on creativity. Prerequisite: 214-266. F-W

214-681 Apparel Design—Draping 1 Cr. Advanced techniques of draping in apparel design; emphasis on individuality and fabrics of interesting texture and design. Prerequisite: 214-680.

214-682 Apparel Design—Flat Pattern 1 Cr. Interpretation of original designs using pattern drafting and advanced flat pattern methods. Prerequisite: 214-580.

214-685 Apparel Design Studio 2 Cr. Analysis of designer responsibilities. Creation and development of original designs using flat pattern and/or draping techniques. Preparation of a professional portfolio. Prerequisites: 214-581, 214-680, 304-534. W

214-690 Advanced Textile Design—Stitchery 1 Cr. Creative exploration of textile design: stitchery and applique. Prerequisite: 214-590. W-SO

214-691 Advanced Textile Design—Non-Loom 1 Cr. Creative potentials of specific areas in textile design: non-loom interlacing thread techniques (sprang, macrame, netting, knitting, crocheting). Prerequisite: 214-590. W-SE

214-692 Advanced Textile Design—Hooking 1 Cr. Creative potentials of specific areas in textile design: hooking and rya. Prerequisite: 214-590. W

214-693 Structural Design and Weaving 2 Cr. Experiences in loom weaving including two and four harness techniques. Special course fee. Prerequisite: 304-101 or consent of instructor. F-W-S

214-694 Advanced Weaving Studio 2 Cr. Complex hand-weaving techniques: block theory, pile constructions, leno techniques and double cloth. Individual work encouraged. Special course fee. Prerequisite: 214-693, or equivalent. F-W-S

214-695 Historic and Contemporary Fabrics 3 Cr. Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience. W

FOOD SCIENCE AND NUTRITION

229-101 Dietetics As a Profession 1 Cr. Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature. F

229-124 Foods 4 Cr. Scientific principles and application in the selection, preparation and service of food. F-W

229-136 Food for Young Children 2 Cr. Food needs of infants and young children. For early childhood educa-

tion majors; not applicable for students with credit in 229-212. F-W

229-202 Fundamentals of Nutrition 2 Cr. Basic principles of applied nutrition; not applicable for students in Home Economics Education, Dietetics, Home Economics in Business, Food and Nutrition, nor those with credit in 229-212. F-W

229-205 Nutrition for Weight Control 2 Cr. Principles of nutrition related to physical stamina, mental alertness and emotional stability of people undergoing weight modification. F-W

229-212 Nutrition 3 Cr. Principles of human nutrition and application to selection of food for family group members. F-W

229-220 Outdoor Cooking 1 Cr. Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods. F-W-S

229-225 Special Topics in Food and Nutrition 1-2 Cr. Study of special topics in Food and Nutrition. Prerequisite: consent of instructor. Repeatable for credit. S

229-240 Food Science 4 Cr. Physical and chemical changes affecting selection, preparation and service of food. Prerequisite: 311-201. F-W

229-260 Menu Planning and Design 2 Cr. Principles of menu planning, de-

sign and production for commercial and institutional food establishments.

229-300 Creative Table Appointments 1 Cr. Principles of design in selection of table appointments for creative entertaining. Not applicable for students with credit in 229-308. Prerequisite: 304-101.

229-305 Baking Processes 1 Cr. Art and science of baking: home and industrial methods. May be repeated for different subunits. Repeatable for credit.

229-308 Meal Management 3 Cr. Development and application of management principles to decision making in meal production. Time, energy and cost considerations in providing meals of optimum aesthetic and nutritional value. Special course fee. Prerequisites: 229-124 or 229-240 and 229-212. F-W-S

229-318 Meal Management Practicum 2 Cr. Principles of food economics, meal management and foodservice for family-sized consumer groups; practical applications and problem solving. Special course fee. Prerequisites: 229-124 or 229-240, 229-212.

229-320 Cooking With Small Appliances 1 Cr. Food preparation with small kitchen appliances: ideas for equipment use (not mechanics or design). Prerequisite: 229-308 or 229-318 or consent of instructor. S

229-404 Foodservice Management for Child Care Centers 2 Cr. Principles of foodservice administration for

preschool children in centers: individual needs and emotional reactions to food, meal planning, purchasing, receiving and storage, principles of food preparation and service, and equipment. W

229-405 Foodservice Practicum for Child Care Centers 1 Cr. Application of food management principles for directors of child care centers: personnel management, menu planning; recipe selection, standardization and adjustment; food purchasing and storage, food production and service, equipment use, sanitation and safety, and nutrition education in day-care setting. Prerequisite: 229-404. F-W

229-410 Advanced Nutrition 3 Cr. Principles of human nutrition applied to individual, family, community and world problems. Prerequisites: 229-212 and 311-511. F-W

229-446 Food Preservation 1 Cr. Principles and practical application of methods of food preservation and storage. F-W-S

229-505 Nutrition for the Aged 2 Cr. Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. Prerequisite: 229-212 or consent of instructor. W

229-512 Clinical Experience in Elderly Nutrition Programs 1 Cr. Practical experience in basic foodservice operation and nutrition education activities in an elderly nutrition program. Prerequisites: 229-410 and 229-505, 229-606 recommended. F-W-S

229-525 Special Topics in Food and Nutrition 1-2 Cr. Study of special topics in Food and Nutrition. Prerequisites: consent of instructor and for 500 level, completion of basic courses in the area. Repeatable for credit. S

229-550 Fast Food Operations 3 Cr. Organization and function of fast foodservice operations. Work methods procedures, staffing, food quality and quantity control, space and equipment maintenance, safety, sanitation, merchandising and career options will be covered. Prerequisites: 229-124 or 229-240, 229-308 and 245-311. F-W

229-606 Nutrition Education 3 Cr. Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Prerequisites: 229-212 and 242-201. F-W

229-612 Clinical Experience—Community Nutrition Programs 1 Cr. Practical experience with community nutrition program; basic nutrition program or foodservice operation and nutrition education activity. Recommended: 229-618 and 229-630. Prerequisites: 229-308 or 229-318, 229-410, 229-606 and 229-680. F-W

229-618 Diet Therapy 4 Cr. Principles and methods for use of diet as therapy in certain pathological conditions. Prerequisite: 229-410 completed at C level or above. F-W

229-620 Food Styling 1-3 Cr. Food as media for artistic expression; effective use of color, form and texture. Prerequisites: 229-124 or 229-249 and se-

nior or graduate standing or consent of instructor. Repeatable for credit. F-W-SE

229-630 Food Behavior 3 Cr. Food behavior: how it controls eating problems, resultant nutritional status; formation of food patterns to meet physical, physiological, psychological or social needs; modification of food behavior. Recommended: courses in social and behavioral sciences. Prerequisites: senior standing or graduate standing and 229-212 preferably within past 2 years. F

229-631 Readings in Food Science and Nutrition 2 Cr. Critical reading, evaluating, and reporting from pertinent current journals and other publications. Repeatable for credit.

229-633 Maternal and Child Nutrition 3 Cr. Application of principles to maternal, infant, child and adolescent nutrition. Prerequisites: 229-212 and 308-132. F-W

229-638 Experimental Foods 3 Cr. Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Prerequisites: 229-124 or 229-240 and 311-201. F-W

229-642 Advanced Foods 2 Cr. Comparative studies of food selection and preparation; appraisal of foods. Prerequisite: 229-124 or 229-240. F-W

229-650 Food Processing 3 Cr. Industrial methods used to prepare and preserve food. Prerequisites: 229-124 or 229-240, 355-120. W

229-661 Social and Cultural Aspects of Food 2 Cr. Social, economic, and cultural influence on human food patterns. Prerequisites: 229-124 or 229-240 and senior or graduate standing or consent of instructor. F-W-SO

229-665 International Food Study Tour 3-6 Cr. Specific international setting tour to study culture, food patterns and industry. Repeatable for credit. SE

229-680 Community Nutrition 3 Cr. Current status and legislative regulation of community nutrition programs; assessment of community needs and resources; program planning, funding and evaluation; role of community nutritionist/home economist as program planner. Recommended: courses in social and behavioral sciences. Prerequisites: senior standing or graduate standing and senior or graduate standing and 229-212 or equivalent (prefer within 2 years). W

HOME ECONOMICS EDUCATION

242-101 Experiential Learning in Home Economics 1 Cr. Contribution of home economics education to development of individuals and families; responsibilities of a professionally trained home economist. F

242-201 Teaching Techniques in Home Economics 2 Cr. Study of teaching techniques and skills for home economics learning experiences in relation to classroom organization and objectives. F-W

242-240 Clinical Experience in Microteaching 1 Cr. Microlessons with microclasses will be videotaped and reviewed for self-evaluation and critique with instructor. F-W

242-241 Clinical Experiences in the Community 1 Cr. Plan and implement home economics learning experiences for children and adults in community programs. Repeatable for credit. F-W

242-301 Home Economics Curriculum 3 Cr. Development of curriculum to meet needs of students in home economics programs. Prerequisite: junior or senior standing. F-W

242-341 Clinical Experiences in Schools 1 Cr. Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through home economics substantive areas. Recommended: 242-240. Prerequisite: junior standing. F-W

242-350 Laboratory Techniques for Teaching and Learning 1 Cr. Develop techniques for managing human and material resources to promote learning in single-purpose or diversified home economics laboratory. Prerequisite: junior standing.

242-443 Clinical Seminar in Home Economics Education 2 Cr. Preparation for and evaluation of student teaching experience: analysis of classroom situation and evaluation of teaching process. Concurrent enrollment in 242-444 required. Recommended: 242-301. F-W

242-444 Practicum in Teaching Home Economics 6 Cr. Experience in applying teaching and learning theory: self-evaluation and analysis of teaching/learning situation under guidance of master teacher. Concurrent enrollment in 242-443 required. Recommended: 242-301. F-W

242-460 Family-Focused Evaluation in Home Economics 3 Cr. Develop evaluation for home economics subject matter and critical-thinking skills. Not applicable to occupational certification. Prerequisite: 242-301.

242-488 Internship Teaching 8 Cr. Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester. Prerequisite: 242-301. F-W

242-500 Externship—Home Economics Community Education 4-8 Cr. Practicum in one or more of following home economics education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Prerequisite: Consent of department. F-W

242-503 Home Economics in the Middle and Elementary School 3 Cr. Develop techniques, materials and curriculum concepts in home economics with application of human growth and development principles for teaching in middle and elementary school. W

242-505 Home Economics Elementary School Practicum 2 Cr. Teaching experience at the elementary school level under the guidance of a cooperating teacher and university supervisor. Prerequisite: 242-503. W

242-544 Future Homemakers of America Workshop 1 Cr. Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the home economics classrooms and programs. Prerequisite: junior standing.

242-620 Vocational Programs in Home Economics 2 Cr. Techniques, materials and curriculum for home economics wage-earning programs in secondary and post-secondary schools; preliminary procedures for program development. Prerequisites: 199-502 and 242-301. F-W

242-623 Education for Consumer Homemaking 2 Cr. Curriculum development; evaluation of methods and materials for teaching consumer education at secondary level. Prerequisite: 242-301. S

242-625 Occupational Education in Clothing Services 2 Cr. Develop concept of occupational education in secondary, post-secondary and adult programs in home economics; related to courses in clothing services. Prerequisites: senior or graduate standing in Home Economics or Home Economics Education.

242-630 Concepts of Extension Education 2 Cr. Concepts and processes in conducting educational programs

for adults and youth: philosophy, objectives and organization of extension education; leadership, development, program development, teaching methods and evaluation. Prerequisites: senior or graduate standing in Home Economics or Home Economics Education. W

242-651 Family Life Education Programs 2 Cr. Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Prerequisites: senior standing, consent of instructor. F-W

HABITATIONAL RESOURCES

245-X98 Hotel and Restaurant Field Experience 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

245-100 The Role of Management in Hospitality Industry 2 Cr. Prospective managers define and analyze nature of work, people, change and education and their interrelationships within hospitality industry. F-W

245-201 Hospitality Housekeeping Management 2 Cr. Management principles applied to duties and responsibilities of housekeepers in hotels, motels, institutions and other hospitality enterprises. F-W

245-202 Front Office Management 3 Cr. Principles required to organize, operate and manage hotel or motel front office; guest needs, salesmanship and procedures for different types of front office operations. F-W-S

245-205 Hospitality Organization Management 3 Cr. Management principles for hotels and restaurants, supervisory development and training, labor relations, union contracts, ownership and financial structure and managerial interpretation and evaluation of current systems and procedures. Prerequisite: 245-100. F-W

245-222 Institutional Food Purchasing 2 Cr. Methods of large-quantity food purchasing: determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls. Prerequisite: 229-124. F-W

245-240 Introduction to Tourism and the Travel Industry 2 Cr. Principles and current knowledge of domestic and international tourism; benefits to community, area, state and nation; trends and potentials. Prerequisite: 320-210. F-W-S

245-250 Family Housing 3 Cr. Relationship of space, equipment, aesthetics and culture to human habitat. F-W

245-275 Management of Family Resources 3 Cr. Application of basic management concepts to family economics. F-W

245-301 Bar Management 2 Cr. History, format and management of bar operations. F-W

245-311 Quantity Food Production 3 Cr. Quantity food production concepts; menu planning, recipe development, work production schedules, production analysis, food and labor cost controls, and introduction to productivity and work simplification concepts; lab work in food production and service. Prerequisite: 229-124. F-W-S

245-312 Restaurant Operational Management 3 Cr. Service of special functions, banquets, receptions: planning, preparation service, menu planning, cost controls, classical buffet setups and personnel organization. Prerequisites: 229-124 and 245-311. F-W-S

245-340 Development of Tourism Attractions 3 Cr. Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations. Prerequisites: 245-240 and 320-210. F-W-S

245-341 Tourism Goods and Services 3 Cr. Total and component parts of tourism goods and services; present and future patterns of supply and demand. Prerequisites: 245-240 and 320-201. F-W

245-344 Hospitality Marketing and Sales 3 Cr. Analysis of theories, fundamental principles and techniques of hospitality marketing and convention sales; functions, interrelationships and coordination of all hospitality de-

partments and their roles in assuring success of marketing effort. F-W-S

245-355 Energy and Household Equipment 3 Cr. Physical principles and fuels involved in household appliance operation; selection, operation, use and care of small, portable appliances. F

245-360 Consumer Economics 3 Cr. Motives for consumption, family income and expenditures, selection of commodities and services, buying and selling practices; evaluate consumer aids, investigate local situations. Prerequisite: 320-201. F-W

245-370 Hotel and Restaurant Accounting 3 Cr. Design and interpretation of specialized accounting and financial control systems in management decision making; uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation. Prerequisite: 160-206. F-W

245-371 Food, Beverage and Labor Cost Controls 3 Cr. The use of financial techniques and systems to control food, beverage and labor costs in hospitality food service operations. F-W-S

245-414 Haute Cuisine 3 Cr. Study and preparation of classic food items and service, culminating in service of formal banquet. Prerequisites: 245-312 and senior standing with a 2.5 GPA. W

245-436 Commercial and Residential Lighting 2 Cr. Practical information on light for general residential living;

sociological, psychological and physical aspects of lighting environment. F

245-455 Kitchen Planning 2 Cr. Arrangement of work centers, equipment, storage and activities for maximum efficiency in residential kitchen design. Prerequisite: 245-250 or consent of instructor. F-S

245-495 Hotel and Restaurant Internship 6-8 Cr. Prearranged advanced positions similar to management training programs in hospitality management. (Available for 8 semester credits and 6 summer credits. Summer internships 12 weeks minimum.) Prerequisites: 90 credits with 3.25 GPA, Hotel and Restaurant major and Internship Committee approval. F-W-S

245-498 American Study Tour in Business and Industry 1 Cr. Five-day visit in New York City or alternate city. Will involve study tours, discussions and lectures by leading people in industry, business and communications related to these fields.

245-501 Foodservice Administration 3 Cr. Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision. Prerequisite: 229-318. F-W

245-513 Quantity Food Production and Service 3 Cr. Application of food preparation principles to large-quantity production; menu and formula standardization, food production costs and menu planning for institutions. Prerequisite: 245-312 or 245-501. F-W-S

245-515 Lodging Administration 3 Cr. Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Prerequisites: 245-201 and 245-202. F-S

245-521 Foodservice Equipment 2 Cr. Factors affecting design, selection, physical facilities and utilities involved in foodservice equipment. Prerequisite: 130-110. F-W-S

245-531 Ecology of Habitat 2 Cr. Philosophical and physical aspects of human housing, with international perspective; insight into family housing needs through lab work; role of home economist in solution of world housing problems. Prerequisite: 6 credits of housing, equipment or equivalent. F

245-565 Consumer Aspects of Life Insurance 1 Cr. Comparative methods of determining life insurance needs; evaluation of adequacy of policy and program features; relevance to family financial planning. Prerequisite: 245-275 or consent of instructor. F

245-566 Consumer Aspects of Health Insurance 1 Cr. Types and sources of health insurance available to U.S. consumer; analysis of American health-care crisis and proposed solutions. Prerequisite: 245-275 or consent of instructor. F

245-600 Integrated Management Systems—Hospitality 2 Cr. Exploration, comparison and synthesis of practices, concepts and theories in hospi-

tality management systems. Prerequisite: 245-205. F-W-S

245-621 Foodservice Layout Analysis 2 Cr. Principles, knowledge and techniques required to successfully analyze and design work systems common to foodservice operations. Prerequisite: senior standing or consent of instructor. W

245-625 Hospitality Industry Law and Liability 3 Cr. Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. Prerequisite: 160-318. F-W

245-626 Hospitality Industry—Employee and Labor Relations 2 Cr. Investigation of employee and labor relations in the hospitality industry; history, legality and techniques of dealing with unionization. F-W

245-640 Psychosocial Dimensions of Tourism 3 Cr. Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. W

245-645 Geography of Tourism 3 Cr. Locational analysis of land use and human migration in national and international tourism. Prerequisites: 245-240, 245-340 or consent of instructor. F-W

245-650 Human Habitat 3 Cr. Influence of different socio-economic factors on effective use of family housing resources; adjustment and flexibility of safety, comfort, convenience, physical and financial maintenance based

on family cycle. Field trips and individual projects. F

245-651 House Evaluation Seminar 2 Cr. Socio-economic factors and environmental conditions that influence effective use of family resources; costs, adaptability, safety, comfort, convenience and maintenance based on family needs. Projects chosen and studied by individual or group. W

245-655 Major Kitchen Appliances 3 Cr. Detailed structure and performance analysis of ranges, refrigerators, freezers, disposers, dishwashers, microwave ovens and selected kitchen appliances. Prerequisite: 245-355, or equivalent. S

245-656 Microwave Oven 2 Cr. Application of microwave heating principles to food preparation and service. F-W-S

245-658 Experimental Laundry Procedures 2 Cr. Application of current knowledge for effective household fabric laundering; equipment use in laundry process, laundry aids and water composition; experimental lab work.

245-660 Consumer Credit 1 Cr. Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. Prerequisite: 245-360 or consent of instructor. S

245-661 Consumer Problems 3 Cr. Factors influencing consumer choices, evaluation of various consumer aids, consideration of consumer responsibilities to meet current needs, activi-

ties of consumer groups. Prerequisite: 245-360 or 245-275.

245-662 Consumer Protection 1 Cr. Major federal and state consumer protection agencies; major business, industry and private organizations set up to aid consumers; avenues of individual and collective consumer redress. Prerequisite: 245-360 or consent of instructor. W

245-663 Consumer Law 1 Cr. Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. Prerequisite: 245-360 or consent of instructor. F-W

245-670 Hospitality—Financial Analysis/Budget/Forecasting 3 Cr. Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: 160-206, 245-370 and 245-371. F-W-S

245-676 Family Finance 2 Cr. Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201. F-W

245-681 Special Problems in Habitational Resources 2 Cr. Current problems in habitational resources; seminar topic chosen by instructor, individual or group. Repeatable for credit. F-W-S

245-682 Hospitality and the Handicapped Traveler 1 Cr. Provide in-

creased sensitivity to needs of handicapped traveler; problems and possible solutions for hospitality organizations. F-W

245-685 Demonstration Techniques 2 Cr. Application of demonstration principles in planning and presenting all types of home economics demonstrations. F-W

245-686 Home Management Seminar 1 Cr. Preparation for management in selected areas of consumer science, family economics, family finance, home management, household equipment and housing. Opportunity to combine study of special topics and lab work in home management of family resources. Repeatable for credit.

LIBERAL STUDIES

INTERDEPARTMENTAL

300-101 Computer Literacy 2 Cr. Brief interdisciplinary introduction to computers, including the areas of hardware, software, history, programming logic and language, different types of systems and applications of computers in various areas. A student who takes Computer Applications in Business (354-142) cannot also get credit in Computer Literacy. F-W

300-250 Soviet Seminar Tour 2 Cr. Introduction to Russian civilization and contemporary Soviet society and government: tours of schools, museums, churches and historical sites; seminars with Soviet students and community leaders. W

300-255 Creative Problem Solving 2 Cr. Transdisciplinary problem solving through acquaintance with and practice in the use of a systematic approach to real problems.

300-260 The China Seminar 2 Cr. Introduction to Chinese civilization, contemporary society, and government including tours within China of schools, museums, communes, factories and historical sites. F

300-510 Introduction to Women's Studies 2 Cr. An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. F-W

300-511 Topic in Women's Studies 1-3 Cr. Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisite: 300-510 or consent of instructor.

300-575 The Ascent of Man 2 Cr. Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. Prerequisite: junior standing or consent of instructor. W

ANTHROPOLOGY

303-220 Introduction to Cultural Anthropology 3 Cr. Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change. F-W

303-250 Man and His Past 3 Cr. Introduction to biological anthropology: man as primate, man's genetic makeup, stages of human evolution, relation of biology to culture, concepts of race, and man and his present environment. W

303-300 Native Americans 3 Cr. North American Indians: native American cultures prior to European contact, Indian/European historical relationships and contemporary reservation/urban Indian life and issues. F

303-610 The Anthropological Study of Family Systems 3 Cr. Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Prerequisite: 303-220 or consent of instructor. W

ART

304-100 Drawing I 3 Cr. Concentration on the development of visual sensitivity through drawing with various media. F-W

304-101 Fundamentals of Design 3 Cr. Basic two- and three-dimensional

design using various media for development of visual sensitivity. F-W

304-105 Summer Art Experience 1 Cr. Intensive experience in art studio using nature, galleries or museums as stimuli. Repeatable for credit.

304-145 The Practice of Art 2 Cr. Introduction to creative concepts, techniques of presentation, practices in studio art, function of criticism, portfolio ingredients and opportunities in the art world. S

304-202 Introduction to Art 3 Cr. Art appreciation and historical survey for the non-Art major. F

304-204 Interior Design 3 Cr. Design and development of interior spaces with a sensitivity to human interaction, materials, and furnishing. Prerequisite: 304-101. F-W

304-205 Problems in Interior Design 2 Cr. Advanced design problems for residential interior spaces with a sensitivity to human interaction, materials, and furnishings. Prerequisite: 304-204. Repeatable for credit. F-W

304-210 Letter Form Design 3 Cr. Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences. Prerequisites: 304-100, 304-101. F

304-256 Art Workshop 1-3 Cr. Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract. Prerequisite: con-

sent of instructor. Repeatable for credit.

304-300 Design Theory and Methods 3 Cr. A study and application of various techniques and theories of design to fundamental design problems. Prerequisite: 170-205 or 304-101. F-W

304-305 Presentation Techniques 3 Cr. Experience in the various techniques of visually developing and presenting a design. F-W

304-310 Graphic Design I 3 Cr. Study and creation of visual images used to inform and/or persuade specific audiences. Prerequisite: 304-101. F-W

304-314 Interior Design Procedures and Specifications 2 Cr. Professional procedures and specifications for interior design proposals; quality control, material performance, public standards and use of related forms. Prerequisite: 304-204. S

304-315 Environmental Interior Design I 3 Cr. Analysis and application of various office systems as they apply to and are a part of an architectural setting. Prerequisite: 304-204.

304-316 Environmental Interior Design II 3 Cr. Analysis and application of various systems in an architectural setting for use in the design of public spaces, such as banks, malls, restaurants, hotels, etc. Prerequisite: 304-204.

304-319 Evolution of Design 3 Cr. Examination of basic concepts which

influence the evolution of architecture, art and design. S

304-320 Interior Furniture Design 3 Cr. Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture. F-W

304-330 Industrial Design I 3 Cr. First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems. Prerequisites: 304-300 and 304-305 or 170-205. F-W

304-331 Women in Art History 3 Cr. Survey of the images and the imagery of women in art from prehistoric times to the present.

304-340 Industrial Design II 3 Cr. Increased understanding of design as applied to the resolution of complex product design. Prerequisite: 304-330. F-W

304-360 Graphic Design II 3 Cr. Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design. Prerequisite: 304-310. F-W

304-380 Signage and Exhibition Design 3 Cr. Organization and design of environmental graphics through the production of signage, display, and exhibition support systems. Prerequisite: 304-360. S

304-405 Advanced Presentation Techniques for Designers 3 Cr. Tech-

niques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors. Prerequisite: 304-305. F-W

304-410 Product and Packaging Graphics 3 Cr. Design and application of graphics to products, packages, and related display systems. Prerequisites: 304-360, (or 304-310 with instructor consent).

304-430 Industrial Design III 4 Cr. Advanced design problems chosen by consultation between student and instructor. Prerequisites: 304-330 and 304-340. F-W

304-431 Symposium in Interior Design 2 Cr. Exposure to and discussion of the practical working world of the interior designer. Prerequisite: concurrent enrollment in 304-301. F-W

304-432 Industrial Design Portfolio 1 Cr. Role and actual development of an industrial designer's portfolio with emphasis on importance of the portfolio in communicating with prospective employers throughout the career. Prerequisite: 304-340. F-W

304-440 Industrial Design IV 4 Cr. Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor. Prerequisite: 304-430. F-W

304-451 Interior Design Practicum 3 Cr. Work experience with an interior

designer or in design-related field arranged with interior design work experience coordinator. Prerequisites: 304-204 and 304-205. F-W

304-500 Drawing II 1-3 Cr. Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-100. Repeatable for credit. F-W

304-501 Life Drawing I 3 Cr. Drawing the human figure in action or at rest; problems in figure composition. Prerequisites: 304-100 and 304-500. F-W

304-502 Life Drawing II 1-3 Cr. Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits. Prerequisite: 304-501. Repeatable for credit. F-W

304-503 Design 3 Cr. Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. Prerequisite: 304-101. Repeatable for credit. F-W

304-507 Introduction to Art Therapy 3 Cr. Art therapist's function; general philosophy, history and techniques; application to clients in treatment programs for various mental and physical conditions; concept of art therapist as member of medical team, with practical experiences.

304-509 Painting I 3 Cr. Introduction to character and use of various painting media; work from still life and life with reference to problems of two-di-

mensional color composition. Prerequisite: 304-500. F-W-S

304-510 Painting II 1-3 Cr. Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-509. Repeatable for credit. F-W-S

304-511 Sculpture I 3 Cr. Introduction to sculptural concepts. Prerequisite: 304-500, or equivalent. F-W

304-512 Sculpture II 1-3 Cr. Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-511. Repeatable for credit. F-W

304-513 Ceramics I 3 Cr. Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. F-W-S

304-514 Ceramics II 1-3 Cr. Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for 3 credits. Prerequisite: 304-513. Repeatable for credit. F-W-S

304-515 Art Metal I 3 Cr. Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction. Prerequisite: 304-101, or equivalent. F-W-S

304-516 Art Metal II 1-3 Cr. Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious

materials. Initial enrollment must be for 3 credits. Prerequisite: 304-515. Repeatable for credit. F-W-S

304-517 Printmaking I 3 Cr. Introduction to the concepts and techniques of printmaking. Prerequisites: 304-100 and 304-101. F-W-S

304-518 Printmaking II 1-3 Cr. Advanced work in the processes of relief, silkscreen, etching, or lithographic printmaking. Initial enrollment must be for 3 credits. Prerequisites: 304-500 and 304-517. Repeatable for credit. W-S

304-519 Current Art Ideas and Practices 3 Cr. Seminar/lab in ongoing contemporary art issues, ideas and directions. Prerequisite: junior standing in Art or completion of 2 advanced studio courses.

304-520 Clay and Glaze Laboratory 1 Cr. Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter. Prerequisite: 304-513 or 304-514 or consent of instructor.

304-522 Modern Art 3 Cr. The main currents and developments in art from Monet and Cezanne to 1950. F

304-523 Survey of Art—Ancient Through Medieval 3 Cr. The painting, sculpture, architecture and minor arts in the ancient western world.

304-524 Survey of Art—Renaissance Through 20th Century 3 Cr. Sculpture, painting, architecture and minor

arts of western world from 14th century to present.

304-525 Egyptian and Mesopotamian Art 3 Cr. The evolution of the arts of ancient Egypt and the Near East.

304-526 Greek and Roman Art 3 Cr. The arts of ancient Greece and Rome.

304-527 Medieval Art 3 Cr. The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

304-528 Italian Renaissance Art 3 Cr. Architecture, sculpture, and painting of the Italian Renaissance from 14th to 17th century.

304-529 Northern Renaissance Art 3 Cr. Renaissance art in Northern Europe from 15th to 17th century.

304-530 Northern Baroque Art 3 Cr. Architecture, painting, sculpture and other art forms of 17th century Northern Europe.

304-531 Southern Baroque Art 3 Cr. Development of art in Southern Europe from Italian Renaissance to 18th century.

304-532 Economics of House Furnishing 3 Cr. Study of consumer house furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to house furnishing markets. F

304-533 Period Furnishings 3 Cr. A survey of furniture and furnishings in the western world. F

304-534 Fashion Illustration 3 Cr. Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101. Repeatable for credit. F-W

304-535 The Art of the Black 3 Cr. Art of the Black: genesis in Africa, influences on 20th century Europe and development in the U.S. from colonial period to present.

304-545 Senior Seminar 1 Cr. Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Prerequisite: senior standing in program. S

304-556 Advanced Art Workshop 1-3 Cr. Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. Prerequisite: consent of instructor.

304-600 18th Century European Art 3 Cr. European art forms during the 18th century.

304-601 Pre-Columbian Art 3 Cr. The arts of the Americas (Incan, Mayan and Aztec) from 1200 B.C. to about 1550 A.D.

304-602 American Art 3 Cr. Development of visual arts in the U.S. from colonial period to 1950.

304-603 19th Century Art in Europe 3 Cr. History of European art from about 1800 to 1900.

304-604 Art Since 1950 3 Cr. Developments in painting and sculpture in Europe and America since 1950.

304-605 Oriental Art 3 Cr. Art from prehistoric times to 19th century in India and Asian subcontinent.

304-606 Oriental Art 3 Cr. Art from prehistoric times to 19th century in China, Japan and their spheres of influence.

304-607 Aesthetics 3 Cr. Examination of the philosophers of contending theories in art. Prerequisite: 304-522. F-W

305-208 Pre-teaching Observation Seminar 3 Cr. Observation of art education teaching practices in the field; various hands-on teaching assistant duties with young children; experience with actual teaching problems through observation, team teaching and microteaching. F

305-311 Curriculum Development for Art 2 Cr. Needs and methods for developing a sequential K-12 art curriculum. W

305-402 Introduction to Teaching Art in Elementary Schools 3 Cr. Development of basic knowledge and skills

needed to foster and extend creative growth in children. F-W

305-403 Introduction to Teaching Art in Secondary Schools 3 Cr. Development of art principles and practices that expand creative growth and development in secondary school students. F-W

305-408 Student Teaching in the Elementary School—Art 4 Cr. Directed teaching and community experience in selected off-campus elementary schools. Prerequisites: 305-402 and 305-403. F-W

305-409 Student Teaching in the Secondary School—Art 4 Cr. Directed teaching and community experience in selected off-campus secondary schools. Prerequisites: 305-402 and 305-403. F-W

BIOLOGY

308-122 Biology—An Environmental Approach 3 Cr. Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments. F-W-S

308-132 Physiology and Anatomy 4 Cr. Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development. F-W-S

308-142 Botany 4 Cr. Introduction to structure and function of plants, survey of plant kingdom, and structure

and life history of representative forms of plant life. F-W

308-150 Man and the Environment 2 Cr. Man's relationship to world environment; contemporary problems: air and water pollution, biocides, solid waste disposal, depletion of natural resources, menace of overpopulation and impending food crisis. F-W-S

308-152 Zoology 4 Cr. Introduction to fundamental concepts of animal life, survey of animal kingdom, structure and physiology of representative animals, evolutionary relationships. F-W

308-206 Food Service and Environmental Sanitation 1 Cr. Microbial problems in food service industry: sanitation, storage, handling, distribution, serving, personnel, equipment and facilities. F-W

308-220 Physiology of Disabilities 3 Cr. Etiology, pathology, clinical symptoms, prognosis, treatment, physical limitations resulting from specific diseases and disabilities. Prerequisite: 308-132. F-W

308-254 Ornithology 3 Cr. Role of birds in natural ecosystems: morphological, physiological and behavioral adaptations; examples drawn from local birds. Prerequisite: 308-152 or consent of instructor.

308-256 Animal Behavior 3 Cr. Introduction to behavioral adaptation of animals to their environments; evolution of individual and social behavior patterns.

308-306 General Microbiology 4 Cr. Structure and physiology of yeasts, molds and bacteria; growth requirements, methods used in culture and identification, bacterial analysis of water and milk, other problems in sanitation and food bacteriology. F-W

308-310 Human Sexual Biology 3 Cr. Structure, function and coordination of human reproductive organ system; reproductive cell formation and function; problems of fertility, sterility, sexuality, birth control and relationship to population challenges. Prerequisite: 308-122 or 308-132. F-W

308-332 Genetics 2 Cr. Fundamental principles of genetics, their functions and applications to plants, animals and man. F-W

308-333 Genetics Laboratory 1 Cr. Perform genetic crosses to reinforce understanding of principles of heredity; *Drosophila* (fruit fly) will be primary experimental organism. Experience in test breeding, observing, tabulating and interpreting results, as in actual genetic research. Prerequisite: 308-332 or concurrent registration. F-W

308-342 Community Hygiene 2 Cr. Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws. F-W-S

308-350 Ecology 3 Cr. Interrelationships of organisms with their abiotic and biotic environments. Prerequisites: 308-142, 308-152 or concurrent registration. F-W

308-358 Introductory Pharmacology 2 Cr. Fundamental principles of major groups of drugs; actions and interactions in human body. (Some science background recommended.) F-W

308-362 Advanced Physiology 3 Cr. Physiological processes: digestion, respiration, metabolism, excretion, circulation and muscle. Histological studies of blood, experiments with frog and turtle hearts, nerve and muscle preparation. Respiratory, nerve, circulatory and muscle experiments on human body. Prerequisite: 308-132. F-W

308-506 Food Microbiology 3 Cr. Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms. Prerequisite: 308-306. F-W

308-650 Neuroanatomy 2 Cr. Phylogenetic adaptations of human behavior using comparative model; sensory, central and motor behavior of animals as they relate to human behavior. F

308-651 Psychobiology 2 Cr. Phylogenetic adaptations of human behavior using comparative model; sensory, central and motor behavior of animals as they relate to human behavior. W

CHEMISTRY

311-115 General Chemistry I 5 Cr. Fundamental principles of chemistry:

structure, compound formation, bonding, reactions, oxidation-reduction, solutions, colloids, equilibrium and acids and bases; demonstration of applications to contemporary problems, environmental effects. Special course fee. F-W-S

311-125 Principles of Chemistry for Health Sciences 5 Cr. Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. For dietetics, food service administration and other allied health science majors. Special course fee. F-W

311-135 College Chemistry I 5 Cr. Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in 311-115. Normally followed by 311-136. Special course fee. Prerequisite: demonstrated academic competence. F

311-136 College Chemistry II 5 Cr. Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions. Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. W

311-201 Organic Chemistry Lecture 3 Cr. Introduction to chemistry of carbon compounds; characteristic reactions of the several functional groups; also aliphatic and aromatic compounds. Taken concurrently with 311-203. Prerequisite: 311-115 or 311-125 or 311-135. F-W

311-203 Organic Chemistry Laboratory 1 Cr. Lab course to be taken concurrently with 311-201. Special course fee. F-W

311-204 Organic Chemistry II lecture 3 Cr. Basic organic chemistry; organic reaction mechanisms. Taken concurrently with 311-206. Prerequisite: 311-201. W

311-206 Organic Chemistry II laboratory 1 Cr. Lab course to be taken concurrently with 311-204. Special course fee. Prerequisites: 311-201 and 311-203. W

311-501 Physical Chemistry Lecture 3 Cr. Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with 311-503. Recommended: 311-531. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156. F-W

311-503 Physical Chemistry Laboratory 1 Cr. Lab course to be taken concurrently with 311-501. Experimental techniques and apparatus; treatment of experimental data. Recommended: 311-531. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156.

311-511 Biochemistry 4 Cr. Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in polarimetry, colorimetry, chromatography and quantitative analytical procedures (Kjeldahl determination of protein nitrogen). Special

course fee. Prerequisites: 308-132 and 311-201. F-W

311-515 Food Chemistry 3 Cr. Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (Maillard-Browning reaction), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods. Prerequisites: 311-115 or 311-125 or 311-135, 311-201 and 311-203. W

311-521 Textile Chemistry 3 Cr. Chemical and physical properties of monomers and high polymers of following natural and synthetic fibers: cotton, cellulose derivatives, silk, wool, linen, nylon, polyesters, acrylics, olefins and polyurethanes. Lab analysis of textile fibers, textile fiber mixtures and dyestuffs. Physical properties of textiles, synthesis of textile polymers, crease resistance; textile finishing. Special course fee. Prerequisite: 311-115.

311-531 Quantitative Analysis 3 Cr. Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Special course fee. Prerequisite: 311-115 or 311-135. W

311-535 Instrumental Methods of Analysis 3 Cr. Application of instrumental methods to chemical analysis: electrochemical, spectral; applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Recommended: 311-531. Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. F

311-541 Chemistry of Materials 3 Cr. Practical applications of principles and facts of chemistry to technological problems: structure and properties of common materials; fuels (solid, liquid, gaseous, fossil, nuclear) and air pollution; water (domestic, industrial, sewage) and water pollution; electrical properties (cells, batteries, fuel cells, electrolysis) and corrosion of metals; protective coatings (paints, varnishes, enamels, lacquers, plating, anodizing, cladding). Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. F-W

311-542 Industrial Hygiene 3 Cr. Principles and techniques for recognizing, evaluating, and controlling existing or potential occupational health hazards that affect employee safety and health.

311-553 Environmental Chemistry 3 Cr. Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution and/or are of current importance; chemical technology needed to correct imbalance. Special course fee. Prerequisite: 311-115 or high school chemistry and consent of instructor. F-W

311-612 Advanced Biochemistry 3 Cr. Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids. Prerequisites: 311-201, 311-203 and 311-511. F-W

ECONOMICS

320-201 General Economics 3 Cr. Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking 320-210 and 320-215. F-W

320-210 Principles of Economics I 3 Cr. Basic economic concepts and economic institutions, national income and employment analysis, business fluctuations, money and banking; monetary fiscal policies. Prerequisite: sophomore standing. F-W-S

320-215 Principles of Economics II 3 Cr. Price theory, income distribution, factor pricing, market mechanisms, functions of economic system, labor and collective bargaining and international economics. Prerequisite: 320-210. F-W-S

320-325 Economic and Business Statistics 3 Cr. Method of collection, analysis, and presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Prerequisite: 355-118, or equivalent. F-W

320-335 Personal Securities Investments 2 Cr. Major aspects of security investments: common and preferred stocks, bonds, mutual funds. Prerequisite: 320-201 or 320-210.

320-410 Microeconomics 3 Cr. Value and distribution theory; analysis of

demand-firm, industry and utility; pricing of production factors. Prerequisite: 320-215. F

320-415 Macroeconomics 3 Cr. Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment. Prerequisite: 320-215. W

320-420 Labor Economics 3 Cr. Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations. Prerequisite: 320-201 or 320-210. F-W-S

320-421 Collective Bargaining and Labor Relations 2 Cr. Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of NLRB. Prerequisites: 320-201, 320-210 or consent of instructor. F-W-S

320-435 Money and Banking 3 Cr. Money and bank credit, modern monetary theories, monetary policy. Prerequisite: 320-201 or 320-210. F

320-440 Principles of Investment 3 Cr. Principles and techniques of investment for people in business; construction and management of security portfolios. Prerequisites: 160-335 and 160-340. WE

320-445 Public Finance 3 Cr. Public finance at all governmental levels; taxation, expenditures, debt manage-

ment and fiscal policy. Prerequisite: 320-215. W

320-450 Energy Economics 3 Cr. Micro- and macro-economic theory applied to energy problems; demand for energy; supply of energy (costs of traditional and non-traditional sources); regulatory problems of energy production; and effect of energy problem on employment, GNP, balance of payments and income distribution. Prerequisites: 320-210, 320-215 or consent of instructor.

320-470 Economic Model-Building and Forecasting 3 Cr. Quantitative models and methods applied to forecasting; regression techniques. Prerequisites: 320-215, 354-331 and 355-275 or consent of instructor. F

320-480 Principles of International Trade 3 Cr. Prerequisite: 320-215. F-W

320-550 Managerial Economics 3 Cr. Decision-making, demand and cost analysis, competitive and non-competitive price systems, marketing problems, capital budgeting and criteria for investment decisions. Prerequisite: 320-215. F-W

320-680 International Trade 3 Cr. Theory and practice of capital movements; foreign exchange rates and controls; balance of payments; tariffs. F-W

ENGLISH AND JOURNALISM

326-090 Writing Workshop 3 Cr. Pass/fail. Remedial writing course open to all students; especially for those who have particular writing problems and need individual instruction. Will not count toward graduation nor fulfill English requirement. F-W

326-101 Freshman English—Composition 3 Cr. Principles and practices of writing; documented paper. Prerequisite: acceptable score on English Department Placement Exam or a passing grade in 326-090. F-W-S

326-102 Freshman English—Reading and Related Writing 3 Cr. Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition. Prerequisite: 326-101. F-W-S

326-111 Freshman English—Honors I 3 Cr. Readings in world literature and related writing for training in composition techniques; documented paper. Prerequisite: departmental selection based on ability. F-W

326-112 Freshman English—Honors II 3 Cr. Continuation of 326-111. Prerequisite: 326-101 or 326-111 or departmental selection based on ability. F-W

326-203 American Poets 3 Cr. Contemporary American writers of narra-

tive, dramatic and lyric poetry. Prerequisite: 326-102 or 326-112.

education and training programs. Prerequisite: 326-102 or 326-112. F-W

326-204 The Short Story 3 Cr. Style, structure, history and development of short story as a literary form. Prerequisite: 326-102 or 326-112. F

326-344 Contemporary Rhetoric 3 Cr. Theory and contemporary practice of the art of written persuasion; documented investigative paper. Prerequisite: 326-102 or 326-112.

326-250 Classical and Biblical Literature in Translation 3 Cr. Selections from Greek, Hebrew and Latin literature. Prerequisite: 326-102 or 326-112. F-W

326-345 Creative Writing 3 Cr. All aspects of imaginative writing. Prerequisites: 326-102 or 326-112 and consent of department. F-W

326-300 Literature for Young Children 3 Cr. Critical survey of literature for children (birth to age 8); introduction to and directed practice of presentation methods. Prerequisite: 326-102 or 326-112. F-W

326-346 Expository Writing 3 Cr. Factual writing; documented investigative paper. Prerequisite: 326-102 or 326-112. F-W

326-303 The Family in Literature 3 Cr. Literature about the family selected from several historical periods and cultures. Prerequisite: 326-102 or 326-112. F

326-347 Critical Writing 3 Cr. The art of evaluation and judgment; writing critical reviews and articles; documented critical paper. Prerequisite: 326-102 or 326-112. F-W

326-306 Reporting and News Writing 3 Cr. Theory and practice of news gathering and reporting; basic techniques of journalistic writing. Prerequisite: 326-102 or 326-112. F-W

326-348 American Literature 3 Cr. American prose and poetry from its beginnings to World War I. Prerequisite: 326-102 or 326-112. F-W-S

326-310 Journalism Practicum 1 Cr. Work on regularly published newspaper and submit articles for evaluation and publication. Prerequisite: Journalism minor or concentration. Repeatable for credit. F-W

326-350 Modern British Literature 3 Cr. Selected poetry, prose, and fiction produced since World War I. Prerequisite: 326-102 or 326-112. F-W

326-320 Business Writing 3 Cr. Effective techniques for writing persuasively in business communications: requests, cordial contact, sales and

326-351 European Literature in Translation 3 Cr. Selected poetry, prose and drama from Dante to present. Prerequisite: 326-102 or 326-112. W

326-360 Modern American Literature 3 Cr. Selected poetry, prose and

drama produced since World War I. Prerequisite: 326-102 or 326-112. F-W-S

326-372 Women Writers 3 Cr. Analyze writing of prominent American and British women novelists and poets of 19th and 20th centuries; criticism of women writers. Prerequisite: 326-102 or 326-112. F

326-380 Best-Sellers 3 Cr. Fiction and non-fiction best-sellers: expression of and impact on popular culture. Prerequisite: 326-102 or 326-112. F-W

326-381 Recent American Literature 3 Cr. American poetry, fiction and drama since 1950. Prerequisite: 326-102 or 326-112. W

326-385 Science Fiction 3 Cr. Critical survey of popular and classic science fiction. Prerequisite: 326-102 or 326-112.

326-400 English Literature 3 Cr. Selected prose and poetry from Beowulf to 1798. Prerequisite: 326-102 or 326-112. F

326-401 English Literature 3 Cr. Selected prose and poetry from 1798 to modern times. Prerequisite: 326-102 or 326-112. W

326-406 Shakespeare 3 Cr. Several representative plays and selected criticism. Prerequisite: 326-102 or 326-112. W

326-410 Writing and Selling Feature Articles 2 Cr. Practice in techniques of

writing and selling feature articles for appropriate markets; submission of articles for potential publication. Prerequisite: 326-102 or 326-112. F

326-425 Copy Editing and Preparation 2 Cr. Develop skill in expanding and reducing written materials; experience in copy reading, proofreading, headlines. Prerequisite: consent of instructor. W

326-450 Studies in Literature (Theme, Author, Genre) 2-3 Cr. A selected writer's work, a significant theme in literature or a genre (one not offered as a separate course of similar duration in departmental curriculum). Prerequisites: 326-102 or 326-112, and 3 credits of literature or consent of instructor. Repeatable for credit. F-W

326-500 Literature for the Reading Child and Adolescent 3 Cr. Critical survey of literature for children (age 8 to beginning to read adult literature); adolescent literature and media presentations of literature. Prerequisite: 326-102 or 326-112. W

326-515 Technical Writing for Home Economics 3 Cr. Specialized writing done by home economists in business; experience in preparing reports, letters and other appropriate materials. Prerequisites: 326-102 or 326-112 and junior standing. F-W-S

326-516 Technical Writing for Industry 3 Cr. Type of writing current in industry; writing business reports and other materials. Prerequisites: 326-102 or 326-112 and junior standing. F-W

326-518 Mass Communication in American Society 3 Cr. History, social implications and future of mass media of communications. Prerequisite: 326-102 or 326-112. F

326-525 Writing Technical Articles 3 Cr. Experience in writing technical articles; requirements for publication in professional media. Research, write and submit individual projects of suitable length and maturity connected with area of specialization. Prerequisites: 326-515 and 326-516 or consent of instructor.

326-541 Psycholinguistics 3 Cr. Linguistics behavior and psychological processes responsible for it. Prerequisite: 326-102 or 326-112. W

326-546 Research Reporting 2 Cr. Effective organization and presentation of individual research. Prerequisites: 326-102, 326-112. F

326-601 Juvenile Fiction Seminar 1-3 Cr. Juvenile fiction: works, themes, genres, issues, variable credit. Variable content repeatable. Prerequisites: 326-300 or 326-500, senior standing or consent of instructor.

FRENCH

328-101 Elementary French I 4 Cr. Introduction to basic audio-lingual skills, essentials of grammar and reading for comprehension. Supplementary materials drawn from cultural heritage of France. Minimum of 1 laboratory hour required. F

328-102 Elementary French II 4 Cr. Continuation of 328-101. A minimum of 1 laboratory hour required. Prerequisite: 328-101. W

328-201 Intermediate French I 4 Cr. Grammar review, vocabulary improvement, oral practice, original composition, and readings that stress French civilization and literature. Minimum of 1 laboratory hour required. Prerequisite: 328-102 or two years of high school French. F

328-202 Intermediate French II 4 Cr. Continuation of 328-201. Minimum of 1 laboratory hour required. Prerequisite: 328-201. W

SPANISH

329-103 Elementary Spanish I 4 Cr. Introduction to conversational Spanish as spoken today in Mexico and South America. F-W

329-104 Elementary Spanish II 4 Cr. Continuation of 329-103. Conversational Spanish as spoken today in Mexico and South America. Prerequisite: 329-103. W

GEOGRAPHY

336-104 World Geography 3 Cr. Introduction to regional and cultural geography of the world; physical and human resources of major areas of the globe. F

HISTORY

338-105 History of America 3 Cr. Survey of U.S. history. Not open to those taking the 22-credit minor nor to those who have completed 338-120 or 338-121. F-W

338-120 Early United States History 3 Cr. U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War. Not open to those who have completed 338-220. F-W

338-121 Modern United States History 3 Cr. U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War. Not open to those who have completed 338-105. F-W-S

338-140 Western Civilization 3 Cr. Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation. F

338-141 Western Civilization 3 Cr. Survey of Western civilization from Reformation to present. W

338-210 Modern World 3 Cr. Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world. F-W-S

338-320 History of Russia 3 Cr. Survey of Russia's historical development since 862. F

338-322 Afro-American History 3 Cr. Social, cultural and political history

of Afro-Americans in the New World, especially the U.S.

338-325 Recent History of the United States 2 Cr. U.S. history in 20th century; recent world development in which U.S. has played a part.

338-330 History of World War II 3 Cr. Causes, conduct and effects of World War II. F-W

338-340 English History 3 Cr. Social, political, religious, military and economic history of Great Britain from Restoration (1660) to modern times. F

338-360 Asian History 3 Cr. Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world. W

338-380 Latin American History 3 Cr. Political, social and economic history of Middle and South America, pre-Columbian to present. W

338-410 Biography of World Leaders 2-3 Cr. Readings in biographies and autobiographies of modern world leaders. S

338-430 Western U.S. History—The Trans-Mississippi West 3 Cr. Development of trans-Mississippi West in 19th century: exploration, missionaries, settlement, fur trade, Indian problems, slavery, admission of new states, mining and cattle industries, agriculture, transportation, communication, culture and land policies.

APPLIED MATHEMATICS

354-X98 Computer Science Field Experience 2 Cr. Off-campus work and study in approved position to better understand challenges and potentials of various careers related to computers. F-W

354-130 Elementary Statistics 2 Cr. Organization and presentation of data, computation of descriptive statistics, regression and correlation theory and computation; elementary sampling theory; introduction to normal and binomial distributions, tests of hypotheses. One year of high school algebra is desirable. F-W-S

354-140 Computer Concepts 2 Cr. Introduction to computing; history of computers, hardware, software and terminology; components and functions of computers; programming concepts and basic applications; running programs written by others; writing programs in BASIC time-sharing language. F-W-S

354-141 Digital Computer Programming 2 Cr. Introduction to computer systems and their use; translating language, program writing and debugging. F-W-S

354-142 Computer Applications in Business 4 Cr. Basic characteristics of business data processing systems, especially computers; hardware and software concepts, data flow and systems design and introduction to business-oriented programming. Not open to those with credit in 300-101. F-W

354-143 Accelerated Programming 4 Cr. FORTRAN language programming; subprograms, plotter output, disk I/O, scientific applications and advanced FORTRAN techniques. Introduction to structured programming languages. Not open to those with credit in 354-141 or 354-240. Prerequisite: some programming background. F

354-240 Intermediate Computer Programming 3 Cr. Continuation of 354-141; subprograms, plotter output, disk I/O and advanced FORTRAN techniques. Introduction to machine and assembly language programming. Prerequisite: 354-141. F-W

354-241 Assembly Language Programming 2 Cr. Assembly language programming; interrupt concepts and service routines and code conversion routines. Prerequisite: 354-143 or 354-240. F-W

354-245 Numerical Methods 2 Cr. Computer programming and numerical methods for solution of equations, simultaneous equations, interpolation, numerical differentiation and integration and statistical analysis. Prerequisites: 355-141 and 355-153 or 355-156. F-W

354-246 Computer Programming—Cobol 3 Cr. Introduction to computer systems and their use; development of programming practices and techniques, flowcharting, and application through business-oriented translating language. Prerequisite: 354-141. F-W

354-331 Probability and Mathematical Statistics I 3 Cr. Sets and combinatorial analysis, probability in dis-

crete sample spaces, Bayes' rule, random variables and probability distributions, change of variable, marginal and conditional distributions, expectation, moments and moment generating functions, Chebyshev's theorem, central limit theorem. Prerequisite: 355-153 or 355-156. F

354-332 Probability and Mathematical Statistics II 3 Cr. Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, nonparametric methods, regression and correlation, analysis of variance. Prerequisites: 355-154 or 355-157 and 354-331. W

354-341 Data Structures 3 Cr. Review of set theory, functions and relations; basic concepts of data; lists, strings and arrays; representation of graphs and trees; storage systems and structures; symbol tables and searching techniques; sorting (ordering) techniques. Prerequisites: 354-240, 355-275 110-556. F-W

354-441 Computer Architecture and Operating Systems I 3 Cr. Architecture of computer systems: hardware component layouts and software systems design and their interrelationships. Prerequisites: 354-141 and 354-241. F

354-442 Computer Architecture and Operating Systems II 3 Cr. I/O control and file systems, memory and processor management, data base management systems and their interrelationships. Prerequisites: 354-141 and 354-241. W

354-445 Numerical Analysis 3 Cr. Mathematical theory supporting nu-

merical methods of computer programming for solution of equations, simultaneous equations, numerical differentiation and integration, and approximation procedures. Prerequisites: 354-245, 355-255 and 355-275. F-W

354-475 Applied Mathematics Internship 2-8 Cr. Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. Prerequisite: junior standing. F-W-S

354-490 Mathematical Models I 2 Cr. Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. Prerequisite: senior standing in Applied Mathematics. F

354-491 Mathematical Models II 2 Cr. Continuation of 354-490. Prerequisite: 354-490. W

354-530 Statistical Methods 3 Cr. Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Prerequisites: 355-120, or equivalent and 3 years of high school math. F-W-S

354-531 Design of Experiments I 2 Cr. Linear and curvilinear regression, single-factor designs, confidence ellip-

soids for means, blocking, Latin and other squares, factorial designs. Prerequisite: 354-332 or consent of instructor. F

354-532 Design of Experiments II 2 Cr. Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Prerequisite: 354-531. W

354-535 Applied Stochastic Processes I 2 Cr. Stochastic processes, Markov chains, stationary distributions, construction of Markov processes, Poisson and birth and death processes, review of statistical inference as applied to these processes. Prerequisites: 354-332 or 354-530 and consent of instructor.

354-536 Applied Stochastic Processes II 2 Cr. Application of topics introduced in 354-535: theory of reliability; branching, social and behavioral, and queueing processes. Prerequisite: 354-535.

354-590 Topics 1-3 Cr. Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. S

354-640 Computer Use in Education 3 Cr. Computer use in administrative, research and instructional aspects of education. S

MATHEMATICS

355-010 Fundamentals of Algebra 2 Cr. Review of fundamental principles of elementary algebra. F-W

355-118 Concepts of Mathematics 4 Cr. Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers; historical survey. Prerequisite: 1 year high school algebra, minimum. F-W-SE

355-119 Business Mathematics 4 Cr. Review of arithmetic and basic algebra; simple and compound interest, inventory control and purchase planning; applications to retailing, marketing, accounting, finance, consumerism and insurance. F-W-SO

355-120 Introductory College Mathematics I 4 Cr. Set theory, logic and methods of proof, number systems and equations, use of time-shared computer, vectors, matrices and inequalities. Prerequisite: demonstrated proficiency. F-W-S

355-121 Introductory College Mathematics II 4 Cr. Open sentences; relations and functions; algebra of trigonometric, exponential and logarithmic functions. Prerequisite: 355-120. F-W

355-123 Finite Mathematics With Applications 4 Cr. Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov

chains. Prerequisite: 355-120 or consent of the department.

355-153 Calculus I 4 Cr. Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in 355-154, 355-156, 355-157 or 355-158. Prerequisite: 355-121, or equivalent. F-W-S

355-154 Calculus II 4 Cr. Continuation of 355-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors. Prerequisite: 355-153. F-W

355-156 Calculus and Analytic Geometry I 5 Cr. Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral. Not open to those with credit in 355-153, 355-154 or 355-157. Prerequisite: demonstrated proficiency. F

355-157 Calculus and Analytic Geometry II 5 Cr. Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. Prerequisite: 355-156. W

355-158 Calculus III 3 Cr. Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration. Prerequisite: 355-154 or 355-157. F-W

355-255 Differential Equations 3 Cr. Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations. Prerequisites: 355-154 or 355-157 and 354-141 or concurrent registration. F-W

355-262 Modern Geometry 3 Cr. Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry. Prerequisite: 355-153 or 355-156. WO

355-275 Linear Algebra 3 Cr. Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms. Prerequisite: 355-153 or 355-156. F-W

355-370 Modern Algebra I 3 Cr. Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings. Prerequisite: 355-154 or 355-157. F

355-371 Modern Algebra II 3 Cr. Continuation of 355-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices. Prerequisite: 355-370. W

355-450 Real Analysis I 3 Cr. Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions. Prerequisite: 355-154 or 355-157. F

355-451 Real Analysis II 3 Cr. Continuation of 355-450; differentiation, integration, infinite series. Prerequisite: 355-450. W

355-460 Complex Variables With Applications 3 Cr. Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. Prerequisite: 355-255. WE

MUSIC

The objective of the Stout music department is to provide musical experience and opportunities for the development of understanding and appreciation of music. The study of this art not only enhances intellectual acumen but also provides aesthetic enjoyment and aids in the development of social coordination through group effort. The organization seeks to further the interest of musical culture and entertainment and to enhance the spirit and character of the university.

The musical organizations are open to any student in the university who can qualify and may be taken for credit as academic electives. All students are invited to attend concerts and may elect music courses and organizations for university credit.

360-101 Class Piano I 1 Cr. Group instruction in piano technique and repertoire at beginner level. One 1-hour lesson per week; additional practice time required. F-W

360-102 Class Voice I 1 Cr. Group instruction in vocal technique and repertoire; small ensemble performance. Optional recital. F-W

360-103 Class Guitar I 1 Cr. Group instruction in guitar technique and repertoire at beginner level. One 1-hour lesson per week; additional practice time required. F-W

360-111 Advanced Piano I 1 Cr. Private instruction in piano technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. F-W

360-112 Advanced Voice I 1 Cr. Private instruction in vocal technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. F-W

360-130 Music Appreciation 2 Cr. Music materials as they pertain to perceptive listening; music and musicians from medieval times to present; students gain significant awareness of great music. F-W-S

360-201 Class Piano II 1 Cr. Continuation of 360-101 at intermediate level. One 1-hour lesson per week; additional practice time required. F-W

360-203 Class Guitar II 1 Cr. Continuation of 360-103 at intermediate

level. One 1-hour lesson per week; additional practice time required. F-W

360-204 Music for the Young Child 3 Cr. Music fundamentals; individual and group instruction and performance on Orff instruments and auto-harp; repertoire for preschool classroom music. F-W

360-211 Advanced Piano II 1 Cr. Continuation of 360-111. F-W

360-212 Advanced Voice II 1 Cr. Continuation of 360-112. F-W

360-264 Stage Band 1 Cr. Study and perform music of the large dance band. Open to any qualified Stout student, by audition only. F-W

360-265 College Choir 1 Cr. Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. F-W

360-266 Stout Concert Band 1 Cr. Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. F-W

360-267 Stout Symphonic Singers 1 Cr. Advanced choral techniques, reading and analysis of choral music of all types and periods. Membership by audition only. F-W

360-268 Solo and Ensemble 1 Cr. Coaching of advanced vocal and instrumental performers for public performance. F-W

360-269 Chamber Singers 1 Cr. Study and performance of music for small vocal ensemble; repertoire is balanced selection from all major stylistic periods. F-W

360-303 Class Guitar III 1 Cr. Continuation of 360-203. F-W

360-311 Advanced Piano III 1 Cr. Continuation of 360-211. F-W

360-312 Advanced Voice III 1 Cr. Continuation of 360-212. F-W

360-314 Woodwinds III 1 Cr. Continuation of 360-214.

PHILOSOPHY

365-201 Introduction to Philosophy 3 Cr. Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation. F-W

365-301 Introduction to Logic 3 Cr. Problem-solving strategies based on induction and on categorical and propositional deduction. F-W

365-305 Philosophy of Religion 3 Cr. Principal philosophical problems in the various dimensions of religious experience and belief. Prerequisite: sophomore standing. F

365-315 Eastern Philosophy 3 Cr. Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Bud-

dhism. Prerequisite: sophomore standing. W

365-325 Existentialist Philosophers 3 Cr. Impact of major Existentialist philosophers on contemporary thought and values.

365-350 American Philosophers 3 Cr. Impact of major American philosophers on evolving American culture.

365-375 Personal and Professional Ethics 3 Cr. Ethical valuing process and major ethical standards applied to personal and professional life. F-W

365-510 Philosophy Seminar 2-4 Cr. Selected topics in philosophy including works of individual philosophers, thematic problems in history of philosophy, issues in contemporary philosophy, or relations of philosophy to contemporary problems in other areas. Prerequisites: consent of instructor and basic course in philosophy, logic or ethics. Repeatable for credit.

365-550 Ethical Valuing 2 Cr. Valuing as a human activity: ethical value bases, value clarification and application processes, and student-designed valuation problems. Prerequisite: sophomore standing.

365-552 Applications in Valuing 1 Cr. Student-designed valuing project in professional area other than education utilizing value theory, perspectives and process. Prerequisite: 365-550.

PHYSICAL EDUCATION

366-101 Health Survey 1 Cr. Relationship of personal health to the whole person; to develop an awareness of high level wellness and how life style relates to health. F-W

366-102 Personal Health 2 Cr. Prevention and care of significant physiological and sociological effects of selected personal health problems in our society. F-W

366-340 Arc Standard First Aid and Personal Safety 2 Cr. American Red Cross certification in Standard First Aid and Personal Safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others. F-W-S

366-346 Arc Cardiopulmonary Resuscitation .5 Cr. Techniques of basic life support: recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in 1-year certification in ARC Basic Life Support course in CPR. F-W-S

366-350 Prevention and Care of Athletic Injuries 2 Cr. Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries. Prerequisite: 366-340. F

366-355 Kinesiology 3 Cr. Body movements and principles affecting them. Prerequisite: 308-132. F

- 366-365 Physiology of Exercise 3 Cr. Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors. Prerequisite: 308-132. W
- 367-103 Archery/Beginning .5 Cr. F-W
- 367-105 Bow Hunting 1 Cr. Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. Special course fee. Prerequisite: 367-103, or equivalent. F
- 367-107 Badminton .5 Cr. F-W
- 367-109 Basketball .5 Cr. F
- 367-113 Bowling .5 Cr. Special course fee. F-W
- 367-115 Canoe Techniques 1 Cr. Special course fee. F-W
- 367-121 Exercise and Fitness 1 Cr. F-W-S
- 367-123 Fencing .5 Cr. W
- 367-125 Flag Football .5 Cr.
- 367-126 Football .5 Cr. F
- 367-128 Folk Dance .5 Cr. W
- 367-130 Golf/Beginning .5 Cr. Special course fee. F-W
- 367-131 Golf/Intermediate .5 Cr. Special course fee. F-W
- 367-133 Judo I .5 Cr. Judo concepts of discipline and respect; basic techniques of falling, throwing, holding, and choking.
- 367-134 Gymnastics (Women's Events) 1 Cr. W
- 367-135 Jogging .5 Cr. The philosophy, principles and skills of jogging as an exercise and health program. F-W
- 367-136 Karate .5 Cr. F-W
- 367-138 Interpretive Dance .5 Cr. F
- 367-140 Orienteering 1 Cr. Special course fee. F
- 367-142 Outdoor Skills 1 Cr. Special course fee. F-W
- 367-146 Racquetball .5 Cr. F-W
- 367-147 Handball .5 Cr.
- 367-148 Relaxation .5 Cr. F-W
- 367-150 Riding .5 Cr. Special course fee. F-W
- 367-151 Personal Defense .5 Cr. Development of physical fitness for de-

fense consciousness; techniques of initial and basic defense skills in weapon and rape attacks. F-W-S

367-152 Skiing .5 Cr. Special course fee. W

367-153 Skiing—Cross Country 1 Cr. Selection of equipment, waxing; flatland, uphill and downhill techniques and touring experiences in Nordic skills. Special course fee. W

367-154 Social Dance .5 Cr. F-W

367-159 Softball .5 Cr. W

367-163 Swimming/Beginning .5 Cr. F-W

367-164 Swimming/Advanced Beginning .5 Cr. F-W

367-165 Swimming/Intermediate .5 Cr. F-W

367-167 Swimming/Advanced .5 Cr.

367-171 Synchronized Swimming .5 Cr.

367-172 Water Games .5 Cr.

367-173 Skin and Scuba Diving 1 Cr. Special course fee. F-W-S

367-176 Tennis/Beginning .5 Cr. F-W-S

367-177 Tennis/Intermediate .5 Cr. F-W-S

367-180 Track and Field .5 Cr. W

367-182 Tumbling 1 Cr. Lab course to develop tumbling skills: forward, backward and sideways rotational, springing and vaulting movements from hands and feet; basic to advanced aerial tumbling. W

367-185 Volleyball .5 Cr. F-W

367-187 Weight Training 1 Cr. F-W-S

367-189 Wrestling .5 Cr. W

367-226 Racket Sports 2 Cr. Skills, rules and teaching methods in badminton, racquetball/handball and tennis.

367-235 Rhythmic Activities 2 Cr. Methods of teaching rhythms: modern, folk, square and social dance.

367-241 Advanced Lifesaving 1 Cr. Red Cross training program in knowledge and skills needed to save one's own or another's life in an emergency. Prerequisite: ARC Swimmers level. F

367-255 Team Sports 2 Cr. Fundamentals and teaching knowledge of touch football, soccer, softball, speedball, volleyball, basketball, hockey and games leading up to team sports.

367-260 Recreational Golf 1 Cr. Fundamental principles of golf; skills, his-

tory, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. Special course fee. S

367-265 Physical Activities for Pre-school Children 2 Cr. Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development. F-W

367-315 Adapted Physical Education 3 Cr. Diversified developmental activities suited to interests, capacities and limitations of students with disabilities who may or may not safely or successfully engage in unrestricted activities in general physical education programs. W

367-325 Recreational Leadership 2 Cr. Objectives, principles, methods and content of a recreational program; problems of facilities, equipment and leadership; program organization and administration for various age levels. F

367-340 Camp Leadership 2 Cr. Role of camp counselors in relation to objectives, organization, guidance, leadership skills and program resources in organized camps; practice in camp-craft skills. W

367-342 Water Safety Instructor 2 Cr. ARC training course. Teaching and testing of swimming, lifesaving skills and knowledge of water safety; theoretical and practical knowledge and assistance in teaching of Red Cross lifesaving and water safety courses. Prerequisite: 367-241. W

367-345 Basketball Officiating 1 Cr. Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications. Prerequisite: 367-255 or consent of instructor. F

367-346 Football Officiating 1 Cr. Application of football officiating rules and techniques. Prerequisite: consent of instructor. F

367-347 Wrestling Officiating 1 Cr. Rules and techniques of wrestling officiating. F

367-350 Principles of Physical Education and Athletics 2 Cr. Principles of physical education based on scientific facts and educational ideals; aims and objectives of physical education at various school levels. W

367-360 Problems in Athletics 2 Cr. Identification, interpretation and discovery of solutions for problem areas in athletics: human relationships, intellectual strategies, competitive unity, sex discrimination and sport characteristics. W

367-370 Elementary School Physical Education 2 Cr. Methods and materials for teaching physical education in the elementary school.

367-375 History and Philosophy of Physical Education 3 Cr. Physical education from ancient to modern times, its relationship to society and to major philosophies. Prerequisite: junior standing or consent of instructor.

367-401 Coaching Gymnastics 2 Cr. Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program. W

367-408 Methods of Teaching Physical Education 2 Cr. Class organization and physical education teaching methods; applied through work with actual classes in required freshman program.

367-450 Organization/Administration of Physical Education 2 Cr. Everyday problems encountered by physical education instructors, relationship of physical education to general education, objectives of physical education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures. F

367-460 Coaching Basketball 2 Cr. Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. W

367-461 Coaching Football 2 Cr. Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. F

367-465 Coaching Competitive Swimming 2 Cr. Principles and techniques of coaching competitive swimming.

Prerequisite: WSI or one year of competitive swimming. W

367-470 Coaching Baseball 2 Cr. Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. W

367-471 Coaching Track and Field 2 Cr. Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. W

367-478 Coaching and Officiating Volleyball 2 Cr. Skills and techniques of coaching and officiating competitive volleyball. Prerequisite: 367-185 or 1 year competitive volleyball. F

367-490 Practicum in Coaching 1-3 Cr. On- or off-campus work and study in athletic coaching with competitive teams. Prerequisite: completion of coaching course in area of practicum. F-W

PHYSICS

372-211 Introduction to Physics 3 Cr. Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies. Prerequisite: 355-120. F

372-221 Mechanics and Electricity 5 Cr. Concepts of mechanics: linear, circular, and trajectory motion, energy, momentum, and rotation; and electricity: static, current, magnetism, and induced EMF's. Special course fee. Prerequisites: 355-121, or equivalent and math skills test. F-W-S

372-222 Heat and Thermodynamics 2 Cr. Concepts of temperature and heat, temperature-dependent properties and processes, heat transfer; laws relating heat and other forms of energy. Prerequisite: 372-221. F-W-S

372-223 Light and Sound 3 Cr. Concepts of light, sound, and waves: sound, acoustics, geometric optics, optical instruments, interference, polarization, lasers, and holograph. Special course fee. Prerequisite: 372-221. F-W-S

372-251 Topics in Astronomy 1 Cr. Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information. F

372-252 Laser Light and Waves 1 Cr. Wave properties of laser light; interference and diffraction as general properties of waves; importance of interference and diffraction effects in laser light; holography and other applications of laser light. W

372-253 Comparative Energy Technologies 1 Cr. Physical processes, applications, limits and problems of alternate energy technologies; possible effects on society. W

372-254 Earth Physics 1 Cr. Physical processes that determine properties of the earth: rock formation, mountain building, earthquakes, weather effects and other geologic topics in framework of physics. F

372-261 Science of High Fidelity and Music 2 Cr. Application of principles of physics to musical sounds, musical instruments, and the production and high fidelity reproduction of music. F

372-281 University Physics I 5 Cr. Calculus-based general physics course: mechanics and thermodynamics with laboratory. Prerequisites: 355-154 or 355-157 or concurrent registration, Math pretest. W

372-282 University Physics II 5 Cr. Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory. Prerequisite: 372-281. F

372-325 Strength of Materials 3 Cr. Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. Prerequisites: 372-221 and 355-153 or 355-156. F-W-S

372-355 Optoelectronics 3 Cr. Devices that utilize principles of electronics for the production or detection of light. Optical communication systems will also be considered. Prerequisites: 372-223, 110-240 or 110-244. W

372-467 Mathematical Physics 3 Cr. Methods of solving boundary value problems; Fourier series and in-

tegrals; and orthogonal functions. Prerequisites: 355-255 and 372-537. F

372-518 Microprocessors and Applications 3 Cr. Equipment, interfacing and programming for microprocessor systems. Prerequisites: 10 credits in lab-based physics or electronics and 2 credits in computer programming. F-W

372-519 Advanced Microprocessor Laboratory 3 Cr. Advanced project: design, construction, and troubleshooting of a functioning microprocessor system. Prerequisites: 372-518 and consent of instructor.

372-527 Physical Electronics 3 Cr. Theory and applications of solid state electronics; basic principles of electronic devices. Prerequisites: 355-153, 372-221 and 110-240 or 110-543. W

372-529 Atomic and Nuclear Physics 3 Cr. Elements of atomic and nuclear physics. Prerequisites: 372-223 and 355-153. F

372-531 Statics 3 Cr. Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. Prerequisites: 354-141, 355-153 and 372-221. F

372-533 Dynamics 3 Cr. Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531. W

372-535 Optics 3 Cr. Optics with emphasis on the wave nature of light: interference diffraction, polarization, and coherence; their applications in holography. Prerequisites: 372-223, 1 year of calculus. W

372-537 Electricity and Magnetism 3 Cr. Properties of electric and magnetic fields in free space and material media. Prerequisite: 372-221 or 355-154 concurrent registration. F

POLITICAL SCIENCE

375-210 Government 3 Cr. Functioning of governmental units in the U.S.A. Political principles, processes, problems; constitutional principles. Comparison of selected foreign governments. F-W-S

375-220 State and Local Government 3 Cr. State and local governments within U.S. federal system. Recommended: 375-210.

375-260 Problems of American Foreign Policy 3 Cr. Analysis of U.S. foreign policy objectives and decision making; problems of national defense, Third World relationships, economic and resource policies, Presidential/Congressional authority, intelligence operations and public opinion.

375-270 Introduction to Comparative Government 3 Cr. Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of al-

ternative approaches to political order and change.

375-310 Political Parties and Pressure Groups 3 Cr. Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses. Prerequisite: 375-210.

375-320 Civil Liberties in the United States 3 Cr. Constitutional basis of minority groups' rights; trends in voting rights, free speech, freedom of religion, censorship, rights of defendants and limitations of dissent. Prerequisites: 375-210 or junior standing and consent of instructor.

375-340 International Relations 3 Cr. World survey of conditions determining power relationships: balance of power, collective security and deterrence; role of international organizations in world politics.

375-510 Public Policy Analysis 3 Cr. Analysis of origins of public policy and policy-making process. Specific case studies of public policy. Prerequisite: 375-210 or consent of instructor. W

375-550 Politics and Technology 3 Cr. Contemporary and future technological innovations; relationship between political institutions and promotion, regulation and impact of industry and technology in the U.S. and other selected countries. Prerequisite: junior or senior standing. F

SOCIOLOGY/SOCIAL WORK

387-110 Introductory Sociology 3 Cr. Social interaction in human groups; relationships between individual and group; basic institutions; social change and current trends. F-W-S

387-205 Introduction to Social Work 3 Cr. Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field. Prerequisite: 387-110. F-W

387-215 Sociology of the Family 3 Cr. The family as an institution; history, variations in other cultures, relationships to other institutions, interactions of members at various stages of life cycle. Prerequisite: 387-110. F-W

387-225 Problems of American Society 3 Cr. Sociological perspective on problems such as mental illness, sexual deviancy, organized crime, white collar crime, violence, bureaucracy, inequality, and consumption.

387-250 Social Psychology 3 Cr. Theory and application of social interaction; emphasis on communication. Prerequisite: 387-110. W

387-275 Sociology of Sex Roles 2 Cr. Sociological analysis of social roles played by the sexes. Prerequisite: 387-110. W

387-420 Child and Family Agencies 2 Cr. Social and legal status of children in American society; various social

services designed to optimize child's growth and development; nature and needs of families; family service agencies. F-W

387-430 Social Casework Methods 3 Cr. Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment; social change. Prerequisite: 387-205.

387-515 Criminology 3 Cr. Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. Prerequisite: 387-110. W

387-525 Sociology of Leisure 3 Cr. Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. Prerequisite: 387-110. W

387-530 Sociology of the Community 3 Cr. Community structure, chiefly in U.S.; variability and current trends, research techniques, community development. Prerequisite: 387-110. F-W

387-540 Sociology of Work 3 Cr. Human behavior in various types of employment and occupations; trends in U.S. Occupational structure. Prerequisite: 387-110. F-W

387-560 Sociology of Juvenile Delinquency 3 Cr. Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention,

control and treatment. Prerequisite: 387-110. F-W

387-575 Sociology of Minority Groups 3 Cr. Social/psychological aspects of interaction between majority and minority groups; trends among minorities in U.S. Prerequisite: 387-110. W

SPEECH

391-100 Fundamentals of Speech 2 Cr. Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise. F-W-S

391-101 Forensics 1-2 Cr. Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit. F-W

391-102 Forensics 1-2 Cr. Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit. F-W

391-103 Forensics 1-2 Cr. Training in speech through participation in intercollegiate forensics: oral interpretation and original and limited-preparation events. Repeatable for credit. F-W

391-104 Forensics 1-2 Cr. Training in speech through participation in inter-collegiate forensics; experience in forensics administration. Repeatable for credit. F-W

391-110 Speech for International Students 1 Cr. Practical experience in communications in various situations; individual and group speaking and listening through use of phonetics and videotaped speech presentations. Length of course varies with individual progress. F-W

391-120 Radio Practicum—Program Participation 1 Cr. Program participation at a radio station. F-W

391-121 Radio Practicum—Advanced Program Participation 1 Cr. Advanced program participation at university radio station WVSS. F-W

391-122 Radio Practicum—Program Production 1 Cr. Participation in program production at university radio station WVSS. F-W

391-123 Radio Practicum—Engineering 1 Cr. Participation as recording, maintenance and/or repair engineer at university radio station WVSS. F-W

391-124 Radio Practicum—News/Sports 1 Cr. Participation in news/sports programs at university radio station WVSS. F-W

391-125 Radio Practicum—Management 1 Cr. Participation in 1 of 12 management positions at university radio station WVSS. F-W

391-131 Theater Practicum .5-1.0 Cr. Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. F-W

391-200 Persuasive Speaking 2 Cr. Advanced techniques of speaking; develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups. Prerequisite: 391-100. F-W-S

391-202 Oral Interpretation 2 Cr. Individual and group activities to develop skill in the oral performance of literature; projects in analysis and delivery of literature. Consideration of individual problems. Prerequisite: 391-100. W

391-204 Techniques of Group Leadership 2 Cr. Techniques for presiding at meetings through use of parliamentary law; persuasion as means of motivating and guiding behavior of others. Prerequisite: 391-100. F-W

391-206 Discussion 2 Cr. Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms. Prerequisite: 391-100. F-W

391-208 Theory of Communication 3 Cr. How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists. Prerequisite: 391-100. F-W

391-210 Interpersonal Speech Communication 1-2 Cr. Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships. Prerequisite: 391-100. F-W

391-232 Introduction to the Theater 3 Cr. Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays. F-W

391-236 Listening 2 Cr. Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships. Prerequisite: 391-100.

391-244 Radio Programming and Production 3 Cr. Planning, writing and producing various types of on-the-air experiences. Programs may be broadcast from university radio station. Prerequisite: 391-100. F-W

391-310 Introduction to Speech Correction 2 Cr. Nature and causes of and therapeutic methods for remediating speech and language disorders. Prerequisite: 391-100. W

391-334 Contemporary Theater 2 Cr. Analysis of selected plays; structure, dramatic content and production methods. Prerequisite: 391-100. W

391-336 Stagecraft and Scene Design 2 Cr. Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound

and visual effects, organization of production staff. Prerequisite: 391-100. W

391-338 Play Production 2 Cr. Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class. Prerequisite: 391-100. F

391-475 Direction of Speech Activities 2 Cr. Organization and administration of forensics programs and tournaments; coaching and judging of individual speaking events and debate. Prerequisite: 391-100.

391-500 Creative Drama For Children 2 Cr. Theory and techniques of developing original dramatizations for children.

391-508 Speech Skills for Business and Industry 2 Cr. Technical speaking; projects in application of speech skills and activities in business and industry. Prerequisites: 391-100 and junior standing. F-W-S

391-512 Speech Skills for Educators 2 Cr. Application of leadership techniques and speech skills in classroom and educational activities; two-way communication as aspect of classroom climate. Prerequisites: 391-100 and junior standing. F-W-S

391-514 Interviewing 1 Cr. Principles and techniques for interviewee in employment interviews. Prerequisite: 391-100. F-W

391-554 Television Programming and Performance 3 Cr. Planning, writing

and performing instructional, public service, special feature or dramatic television programs. Prerequisites: 391-100 and junior standing or consent of instructor. F-W

EDUCATION

COUNSELING AND PERSONNEL SERVICES

413-405 Peer Counseling 3 Cr. Laboratory experience will train class participants to be peer counselors and trainees for peer groups that counsel among themselves using skills in listening, giving support and providing alternatives through verbal and non-verbal interaction. F-W

413-444 Introduction to Group Processes 2 Cr. Principles of group processes and the appropriateness of their application in various settings.

413-501 Introduction to Guidance 2 Cr. Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors. F-W-S

413-510 Early Childhood Assessment 3 Cr. Theory and techniques of assessing child development (birth through 8 years) in cognitive, psychomotor and socioemotional areas.

413-600 Workshop—Counseling/Psychological Services 1-3 Cr. Current specialized topics studied through experiential activities. Prerequisite: consent of instructor. Repeatable for credit.

413-629 Guidance in the Elementary School 2 Cr. Nature and conditions of guidance in elementary schools; curricular and non-curricular guidance techniques, referrals, parent counseling; guidance principles and practices applied to elementary school child. F-S

413-634 Technical/Vocational Education Student 2 Cr. Characteristics of vocational/technical student affecting social, physical, emotional and intellectual development in adolescent-to-young-adult transition; implications for guidance, counseling and vocational education.

413-647 Behavior Problems of Children 2 Cr. Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children. Prerequisite: consent of instructor. W-S

413-648 Learning Disabilities in Young Children 2 Cr. Early recognition through observation and use of screening instruments; general and specific developmental delays in the young child; programming to maximize readiness for academic learning. W-S

413-650 Behavior Problems of Adolescents 2 Cr. Behavior problems of contemporary American adolescents; identification, etiology, intervention and prevention; guidance techniques and processes for teachers, counselors, school psychologists, social service and child care workers, and parents. W-S

413-666 Alcoholism and Family Systems Intervention 2 Cr. The role of alcoholism in the family and how to intervene therapeutically. F-S

413-675 Counseling Theory 2 Cr. Theoretical approaches to counseling: psychoanalytic adaptations, behaviorism, trait-factor, client-centered and others; nature of man, underlying personality theory, goals of counseling, role of counselor and illustrative practical applications in each approach; develop beginning personal theory of counseling. Prerequisite: 413-501. F-W-S

413-691 Theories of Career Development 2 Cr. Psychology of work: career development, meaning of work, job satisfaction and factors in career choice. Prerequisites: 413-501 and senior or graduate standing.

413-694 Counseling Older Persons 2-3 Cr. Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. S

EDUCATION

421-205 Human Relations for the Helping Professions 2 Cr. An experi-

ential seminar aimed at the improvement of human interaction and the human condition through the development of communication and behavioral skills. F-W

421-280 Reading Improvement 1-2 Cr. Skill instruction in reading study skills. Application of skills to student's textbooks and materials. F-W

421-303 Educational Psychology 2 Cr. Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Prerequisite: 479-110. F-W-S

421-305 Teaching Practicum 2 Cr. Practical experience in developing the prospective teacher's ability in specific well defined teaching skills. Prerequisite: 421-205. F-W-S

421-326 Foundations of Education 2 Cr. Historical background, status, trends, and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy.

421-405 Student Teaching 8 Cr. Experience in applying the theories and skills involved in teaching and learning under the guidance of a master teacher in selected off-campus schools. Prerequisites: 421-205, 421-305, 421-536, 421-538, 421-540, 421-641; overall GPA of 2.25; satisfactory health, speech and English. F-W

421-406 Intern Teaching 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisites: 421-205, 421-305, 421-536, 421-538, 421-540, 421-641; overall GPA of 2.25; satisfactory health, speech and English. F-W

421-422 Principles of Secondary Education 2 Cr. The evolution, status, and trends of secondary education. Needs of our democratic society; philosophy, organizational problems, curriculum development, and the responsibilities of the individual teacher as related to students before they begin student teaching. Prerequisite: 479-110. F-W-S

421-438 Curriculum Development 2 Cr. Intensive study and practice of the procedures involved in course construction culminating in a course of study appropriate to the student's major or minor. W-S

421-440 Management of the Learning Environment 2 Cr. Alternative practices and procedures involved in the effective management of the learning environment. Prerequisites: 421-205, 421-538. W-S

421-495 Personal Learning Experience 2 Cr. An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism.

Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience. F-W

421-522 Secondary Education Seminar 2 Cr. For post-student teaching, discussion of the evaluation, status, and trends of secondary education. The experiences of the students' teaching related to the needs of our democratic society; philosophy, organization, problems, curriculum development, and the responsibilities of the individual teacher.

421-536 Working With the Culturally Different 2 Cr. Intensive study and practical experience in working with the culturally different. Prerequisite: 421-205. F-W

421-590 Mental Health in the Schools 2 Cr. A study of the total school community in terms of factors and dynamics contributing to the development or hindrance of the mental health of students, staff, administration, parents. Prerequisite: junior or senior standing.

421-600 Workshop—Special Topics in Education 1-3 Cr. Current specialized topics studied through experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

421-641 Education Evaluation 2 Cr. Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs. W-S

421-672 Cognitive Style Application 1 Cr. This course (seminar) is designed to allow a person knowledgeable in cognitive style theory (as taught in 421-690) to do an in-depth study of its application in a school or campus setting. Alternative methods will be presented and discussed. Desirable: 421-690 or equivalent.

421-682 Reading Methods—Secondary School 2 Cr. Technical information on the reading process, self-concept and reading and specific classroom reading problems. Construction of directed reading activities, informal reading inventories, reading study guides, readability checks, SQ32 study skills, vocabulary development and comprehension materials. Prerequisite: junior or senior standing or consent of instructor. F-W

421-683 Seminar in Reading Methods for Secondary Schools 1 Cr. Selection, research and presentation for discussion of topics related to reading in secondary schools. Prerequisite: 421-682. W

421-685 Psychology of Adult Education 2 Cr. A global view of the philosophy, purpose and practice in various programs of adult education, and an examination of the characteristics of the adult learner plus a profile of his ego, intelligence, and development.

421-690 The Educational Sciences 2 Cr. An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting. Prerequisite: junior standing.

SPECIAL EDUCATION

431-480 Student Teaching With Handicapped Youth 8 Cr. Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Prerequisites: 431-661 and 431-662, 2.5 GPA in major courses, "C" or better in English and speech, health certification. F-W

431-501 Learning Disabilities 3 Cr. Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. W

431-532 Psychology of the Exceptional Child 2-3 Cr. History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems. F-W

431-555 Issues in Special Education 2 Cr. Current and controversial issues in special education. Prerequisite: 431-532. F

431-559 Curriculum for the Retarded 2 Cr. Program planning for secondary special education (MR) with specific scope and sequence, learning activities, and evaluation techniques for language arts, math, social sciences and science. To be taken concurrently with 431-560. F-W

431-560 Special Education Methods and Materials 2 Cr. Design, development and content of curriculum for secondary educable mentally retarded (EMR) students; materials and methods of presentation. To be taken concurrently with 431-559. F-W

431-561 Prescriptive Diagnostic Teaching 3 Cr. Develop skills for diagnosis and intervention of behavior and learning problems of the handicapped. Development of and IEP (Individual Education Plan) for handicapped students. To be taken concurrently with 431-562. Prerequisite: consent of instructor. F-W-S

431-562 Clinical Experience With the Handicapped 2 Cr. Tutor a handicapped individual in an on-campus or educational setting. To be taken concurrently with 431-561. Repeatable for credit. F-W-S

431-565 Academic Instruction for Mentally Retarded 2 Cr. Techniques and approaches for teaching basic and functional academics to EMR students. Prerequisites: 431-559 and 431-560. F

431-581 Legal Rights of Handicapped 2 Cr. Current litigation, civil commitment, criminal proceedings, federal and state statutes, and civil rights regarding the handicapped student and adult. Prerequisite: 431-532. F-W

431-585 Introduction to Mental Retardation 2 Cr. Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. F-W

431-595 The Gifted Student 2 Cr. Characteristics of gifted, creative and talented individuals; identification in educational settings; social, psychological and educational aspects of providing for the gifted throughout school years.

431-630 Mainstreaming Special Students 3 Cr. Learning characteristics and behavior of mentally retarded, learning disabled, socially and emotionally disturbed, hearing and sight impaired, orthopedically and chronic health impaired, speech and language impaired students; services mandated by PL94-142, M-team process, and individualized educational plan; instruction of handicapped within regular classes. F-W-S

431-660 Practicum in Special Education 2 Cr. Off-campus work and study in educational settings with handicapped youth. To be taken concurrently with 431-661. Prerequisite: consent of instructor. Repeatable for credit. F-W

431-661 Career Education for Handicapped Youth 3 Cr. Techniques for interviewing, planning and directing school programs in career choice for handicapped adolescents; class activities in community job surveys, work placement and work supervision. To be taken concurrently with 431-660. F-W

431-662 Classroom Management Techniques 3 Cr. Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. F-W-S

VOCATIONAL REHABILITATION

459-X98 Vocational Rehabilitation Field Experience 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101.

459-101 Introduction to Rehabilitation 3 Cr. An introduction to serving handicapped and disadvantaged persons. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

459-102 Community Resources 3 Cr. Role of community resources in rehabilitation. Prerequisite: 459-101.

459-201 Basic Skills in Rehabilitation 2 Cr. Development of basic competencies required in most rehabilitation specialties: interviewing, behavioral observation, developing case files, utilizing media materials, report writing, and utilizing occupational information. Special course fee. Prerequisites: 459-101 and 459-202.

459-205 Rehabilitation Practicum 4 Cr. Direct experience working with handicapped clients and members of the helping professions in rehabilitation settings. Prerequisite: 459-201.

459-310 Vocational Evaluation 4 Cr. Vocational evaluation methods: work samples, psychometric testing, situational assessment, techniques of job classification and report writing. Prerequisite: 459-201.

459-311 Adjustment Services 3 Cr. Principles and procedures of adjustment services as a treatment process for disabled individuals; developing and implementing adjustment plans; evaluating results. Prerequisite: 459-201.

459-325 Rehabilitation of the Sensory Disabled 3 Cr. Introduction to the deaf, blind and deaf/blind; methods and techniques of sensory disability rehabilitation. Prerequisite: 459-201.

459-330 Psycho-social Aspects of Disabilities 3 Cr. Nature, etiology and methods of dealing with problems of the physically and emotionally handicapped. Special course fee. Prerequisites: 308-220, 459-201 and 479-561.

459-401 Principles and Techniques of Case Load Management 2 Cr. Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities. Prerequisite: 459-330.

459-402 Rehabilitation Facilities Operation 3 Cr. Principles and practices in rehabilitation facilities operation; knowledge of laws, volunteer programs, budgeting practices and determination of program effectiveness. Prerequisite: 459-201.

459-410 Placement Processes With the Handicapped 3 Cr. Theory and methods of placement techniques for handicapped individuals. Prerequisite: 459-201.

459-413 Vocational Evaluation Seminar 2 Cr. Methods of determining

community resources that meet training and job placement needs of rehabilitation client; analyzing jobs in order to develop tools for evaluating rehabilitation client's potential for local training and job placement. Prerequisites: 459-310 and 459-610 or consent of instructor.

459-505 Sign Language I 3 Cr. Basic course in manual communication with the deaf. Intensive practice in expressive and receptive communication. Prerequisite: 459-201 or graduate standing. F

459-506 Sign Language II 3 Cr. Intermediate course in manual communication with the deaf; American Sign Language; increase sign vocabulary and communication speed. Prerequisite: 459-505. W

459-509 Introduction to Biofeedback 3 Cr. Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. Prerequisites: 308-132 and 479-110. F

459-510 Clinical Biofeedback Laboratory 3 Cr. Development of clinical skills and familiarization with laboratory monitoring devices and stress management techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field, and ethical considerations. Prerequisites: 308-220, 413-405, 459-509 and consent of instructor. W

459-520 Rehabilitation of the Chemically Dependent 3 Cr. Background in the field of chemical dependency with emphasis on the rehabilitation aspects of the chemically dependent and knowledge of the historical and sociological implications of drug usage. Prerequisites: 459-201 and junior or graduate standing. F-W

459-525 Rehabilitation of the Public Offender 3 Cr. The field of corrections as it concerns the individual and criminal justice institutions; basic legal terms, laws, types of institutions and treatment modalities; treatment effectiveness and trends in criminal justice field. Prerequisites: 459-201 and 479-561 or graduate standing. F-W

459-550 Independent Living 2 Cr. An overview of independent living programs in this country including evolution, goals, methods of service delivery, and program management of ILP. F-W

459-585 Rehabilitation of the Mentally Retarded 2 Cr. Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with mentally retarded adults. Prerequisite: 459-201 or graduate standing. F-W-S

459-587 Handicapped Workers in Business and Industry 3 Cr. Orientation to handicapped workers in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of handicapped workers. Emphasis upon governmental requirements for conformance, linkage between business and rehabilitation, community resources, and staff development. Pre-

requisite: junior, senior or graduate standing. W

459-601 Rehabilitation in the Private Sector 2 Cr. Introduction to the private-for-profit sector of rehabilitation. Orientation to the contractual services offered by practitioners. Industrial in-plant models will be contrasted to other models for providing rehabilitation services to disabled workers. F-W

459-605 Microcomputer Application for the Handicapped 2 Cr. Use of microcomputer hardware and software to facilitate the development of functional skills of the handicapped. W

459-610 Psychological Testing With Handicapped People 2 Cr. Introduction to psychometric tests; administration, interpretation/scoring and application to handicapped populations. F-W-S

459-680 Principles of Rehabilitation Counseling 3 Cr. Theory and application of counseling processes in rehabilitation settings. Prerequisites: 413-675 and 479-561. F-W-S

459-682 Sexuality and the Disabled 2 Cr. Programs in sexuality, terms and techniques, exploration of personal biases and development of techniques for dealing with sexuality of disabled individuals. Prerequisites: 459-330, 459-680 or graduate standing. F-W

459-685 Group Processes in Rehabilitation Settings 2 Cr. Theory and application of group processes in rehabilitation settings; direct experience as

member and facilitator of a group. Prerequisite: 459-680 (undergraduate) or 459-761 (graduate). F-W-S

PSYCHOLOGY

479-100 Psychology Seminar I—Foundations 1 Cr. An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed. Students continue enrollment in the seminar until they have completed 479-100, 120, 150 and 190 and gained approval for their individual program plan.

479-110 General Psychology 3 Cr. An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience. F-W-S

479-120 Psychology—Its History and Systems 3 Cr. Comprehensive survey of history of psychology and basic systems that have developed into modern American psychology. Treatment is given both to philosophic development of psychology and to evolution of psychology as a behavioral science. Emphasis on development of psychology in the 19th and 20th centuries in western Europe and the U.S. with the schools of thought:

Structuralism, Functionalism, Behaviorism, Gestalt Psychology, and Dynamic Psychology receiving primary consideration. State of modern psychology is considered; contributions of contemporary psychologists examined. W

479-150 Humanistic Psychology 3 Cr. The course will address the question of "Who am I?" from a contemporary horizon where concerns of psychology intersect biology, philosophy, sociology, anthropology, history and religion. From there we move toward possible answers to man's perennial questions about himself and his future through readings and discussions of key works. The overall objective of the course will be to help the student construct, for himself, a viable answer to the classical question, "Why am I?" F-W

479-190 Psychological Methods I 3 Cr. This course introduces the student to research in the behavioral sciences. Observational, clinical, historical, correlational, descriptive, and experimental techniques are introduced and evaluated. Through the study of contemporary psychological research, the student gains evaluative principles which will enable him to be an intelligent research consumer. F-W

479-251 Child Psychology 3 Cr. A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior. Prerequisite: 479-110. F-W-S

479-281 Environmental Psychology 3 Cr. Psychological aspects of person/

environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors. Prerequisite: 308-122 or 308-150. W

479-300 Psychology Seminar II 1 Cr. The second level of seminar for psychology program students. Activities center on sharing knowledge and experience among faculty and students and on an assessment of the development of program level competencies by students. Prerequisite: 479-100. F-W-S

479-390 Experimental Psychology 3 Cr. This course serves as an introduction to the methodology and content of experimental psychology. This course is built around the concept of behavioral objectives which are used for guiding the learning process, and evaluating that process. Upon successful completion of this course, the student will be capable of formulating a psychological problem, designing an experiment to investigate this problem, planning all aspects of the experimental process, conducting a well run experiment, analyzing and interpreting results and evaluating the experiment. Prerequisite: 354-130. W

479-400 Psychology Seminar III 1 Cr. The final seminar for psychology program students. Attention is given to the transition to graduate school and/or employment by students. Students develop and conduct an original investigation and report their findings in a formal research paper as a demonstration of their achievement of program competencies. Prerequisite: 479-300. F-W-S

479-451 Children's Learning 3 Cr. Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language. Prerequisites: 212-124 and 479-110. F

479-460 Personality and Mental Health 3 Cr. An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development. F

479-483 Human Resource Development 2 Cr. Foundation of human resource selection and development in the business and industrial setting. The sub set of personnel management concerned with staffing, orientation, appraisal, development, counseling, and compensating employees constitute the major topics of study. Prerequisites: 479-110 or 479-150 and 150-150. F-W

479-484 Introduction to Behavior Modification 2 Cr. An introduction to the applied analysis of behavior. Emphasis is placed on the fundamentals of behavior modification, models of behavior control, and applications in a variety of settings. Prerequisites: junior standing and at least 3 psychology courses or consent of instructor. W-S

479-530 Psychology of Learning 3 Cr. A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. F

479-535 Motivation and Emotion 3 Cr. An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisites: 479-110, junior standing and 9 or more credit hours in psychology or consent of instructor. W

479-540 Psychology of Individual and Group Differences 3 Cr. Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.

479-552 Adolescent Psychology 3 Cr. The physical, emotional, social, moral, and intellectual development of secondary school youth. Prerequisite: 479-110. F-W-S

479-561 Abnormal Psychology 3 Cr. A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. F-W-S

479-570 Assertive Training Procedures 2 Cr. Training in interpersonal behavior and communications in which persons learn to defend their le-

gitimate rights without violating the rights of others. F-W-S

479-571 The Psychology of Marriage and the Family 2 Cr. A study of the interpersonal relations involved in dating, mating, and family collaboration with growing awareness of patterns for self-integration. F-W

479-574 Psychology of Women 2 Cr. The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles, and the meaning of aging. Prerequisite: 479-110. F

479-579 Public Relations 2 Cr. Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics. F-W-S

479-581 Industrial Psychology 2 Cr. A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110. F-W

479-582 Personnel Management 3 Cr. Organization and coordination of personnel practices and methods. Consideration given to communica-

tion, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. F-W-S

479-601 Workshop—Special Topics in Psychology 1-3 Cr. Current specialized topics studied in a small group setting utilizing experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

479-632 Perception 3 Cr. This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. F-W

479-690 Psychological Measurement 3 Cr. An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. W

TRANSDISCIPLINARY

500-100 Applied Student Leadership 2 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. F-W

500-100A Applied Student Leadership .5 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Not open to those who have completed 500-100.

500-100B Applied Student Leadership .5 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Not open to those who have completed 500-100.

500-100C Applied Student Leadership .5 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Not open to those who have completed 500-100.

500-100D Applied Student Leadership .5 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Not open to those who have completed 500-100.

500-477 International Studies 1-8 Cr. Interinstitutional Credit Exchange. Students complete educational experiences at recognized/accredited international institutions. The course may be repeated in a given semester or in other semesters. Enrollment is by permission of the Director of International Programs. Prerequisites: sophomore standing, good standing academically (i.e. 2.00 GPA or more) and permission of the Director of International Studies.

LEARNING RESOURCES

MEDIA TECHNOLOGY

600-504 Elementary Photography 2 Cr. Fundamentals of photography: aesthetics, basic theory, camera operation, film selection, lighting, roll-film processing, contact printing, enlarging and print finishing. Student must provide own camera. F-W-S

600-535 Film—History and Appreciation 3 Cr. Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers. F

600-540 TV—Appreciation and Criticism 2 Cr. Analysis of major TV program types; positive and negative contributions of TV; commercials; children's programming; TV viewing diary; development of TV Action Plan. W

600-560 Audiovisual Communications 2 Cr. Methods of evaluating and using audiovisual materials effectively; experience in operating equipment; basic techniques of media preparation. F-W-S

600-561 Preparation of Audiovisual Materials 2 Cr. Planning, designing and producing instructional and presentation materials. Prerequisite: 600-560. F-W-S

600-570 Introduction to Computer-Assisted Instruction 2 Cr. Application of computers to training and instruction. Theory and design of instructional material for presentation by the computer. Courseware development tools and their use. Prerequisite: consent of instructor or curriculum course. S

600-573 Educational Television Utilization 1 Cr. Effective use and evaluation of telelessons in teaching; operation of TV receiving and distribution equipment; curriculum considerations for integrating ETV programming into classroom instruction. SE

600-580 Microcomputer Applications—Words/Data 2 Cr. Applications of specific commercial microcomputer programs for personal, professional, and student use. Emphasis on word processing, numerical and file management programs. W-S

600-605 Advanced Photography 2 Cr. Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. Prerequisite: 600-504. F-W-S

600-615 Micrographics Fundamentals 1 Cr. Fundamentals of microform production and use; descriptions and production of microformats, COM, color microfiche, storage and retrieval concepts, micropublishing, acquisitions, management and legal aspects of microforms. F-SE

600-630 Audio/Film/TV Production Fundamentals 3 Cr. Instructional film, audiotape and videotape production fundamentals. For media technology majors; not open to those taking 391-554. F-S

600-632 TV Production 2 Cr. Advanced instruction in small-format and broadcast television program production, content development and utilization: program development, equipment use and practicum instruction in producing, directing, script preparation, production engineering, audio control, video switching, camera operation, floor coordination and lighting. Prerequisite: 600-630. W-SO

600-636 Motion Picture Production 2 Cr. Advanced concepts of motion picture production applied to individual student films. Production planning, shooting, animation, editing, sound recording, titling and other technical problems of production. Prerequisite: 600-630.

600-640 Telecommunication Systems and Teleconferencing 2 Cr. Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. F-W-S

600-645 Color Photography 2 Cr. Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing. Prerequisite: 600-504. F-W-S

600-655 Slide/Tape and Multi-Image Production 2 Cr. Practical experience in planning, producing, and presenting media productions for instruction/training. Advanced applications

of photography, audio, video, and programming related to slide/tape and multi-image presentations. Prerequisites: 600-560 and 600-630. W

Faculty and Academic Staff

Chancellor's Office

Robert S. Swanson, 1950, Professor and Chancellor, Ph.D., University of Minnesota

John Furlong, 1963, Professor and Assistant to the Chancellor, Ph.D., University of Minnesota

Office of University Relations

Charles L. Buelow, 1968, Director, B.A., University of Wisconsin-Milwaukee

John K. Enger, 1969, Associate Director and Coordinator of News Service, B.S., University of Wisconsin-Eau Claire

Donald R. Steffen, 1981, University Editor, B.S., University of Wisconsin-Stout

Foundation and Alumni Services

David K. Williams, 1981, Director, M.A., University of Wisconsin-Madison

Patricia A. Reisinger, 1982, Assistant Director, M.S., University of Wisconsin-Stout

Academic Affairs Division

Wesley L. Face, 1957, Professor and Vice Chancellor, Ed.D., University of Illinois

Earl W. Gierke, 1962, Professor and Assistant Vice Chancellor, Ph.D., University of Minnesota

Nelva G. Runnalls, 1966, Professor and Dean for Curriculum, Research and Graduate Studies, Ph.D., University of Missouri

Lawrence S. Wright, 1967, Professor and Director, Graduate Admissions; and Assistant Dean for Graduate Studies and Curriculum, Ed.D., University of Missouri

Jerry M. Anderson, 1982, Assistant Dean for Research, Ph.D., Michigan State University

Raymond M. Szymanski, 1968, Professor and Coordinator of Research, M.A., University of Minnesota

John Van Osedale, 1968, Associate Professor, Director of Continuing Education and Director of the Summer Session, M.S., Bradley University

Janet E. Roehl, 1981, Specialist, Continuing Education, Ph.D., Arizona State University

John B. Stevenson, 1966, Professor and Director of International Programs, Ph.D., The Ohio State University

Ellen D. Lanahan, 1983, International Student Coordinator/Advisor, M.A., The Florida State University

School of Industry and Technology

M. James Bensen, 1966, Professor and Dean, D.Ed., The Pennsylvania State University

- Donald G. Chatman, 1982, Associate Professor and Assistant Dean, M.A., Occidental College
- John F. Entorf, 1967, Professor, Assistant Dean and Director of Center of Innovation and Development, Ed.D., Texas A & M University
- Dorothy Dale, 1975, Director of Cooperative Education Program, Ed.S., University of Wisconsin-Stout

Energy and Transportation

- Thomas R. Baldwin, 1970, Professor and Department Chair, Ed.D., Texas A & M University
- Jonas Amoapim, 1982, Associate Professor, Ph.D., Oregon State University
- James A. Collier, 1965, Professor, Ed.D., Texas A & M University
- Michael J. Dickerman, 1983, Lab Assistant
- Edward O. Morical, 1957, Associate Professor, M.Ed., Wayne State University
- Don E. Olson, 1982, Specialist, Ph.D., University of Wisconsin-Stout
- Thomas E. Prescott, 1977, Specialist, M.S., University of Wisconsin-Stout
- Joe A. Rinck, 1968, Professor, Ed.D., Colorado State College
- Jack B. Sampson, 1957, Professor, Ed.D., University of North Dakota
- Robert Spinti, 1957, Professor, Ed.D., University of Missouri

Graphic Communication

- William D. Amthor, 1960, Professor and Department Chair, Ed.D., Texas A & M University
- Gary Cowles, 1975, Lecturer, B.S., University of Wisconsin-Stout
- Robert W. Hendricks, 1982, Instructor, M.S., University of Wisconsin-Stout
- James F. Herr, 1965, Professor, Ed.D., University of Missouri
- Daniel G. Malenke, 1977, Lecturer, M.S., University of Wisconsin-Stout
- Dan L. Massopust, 1983, Instructor, B.S., Milwaukee Institute of Technology
- James R. McCracken, 1977, Lecturer, M.S., University of Wisconsin-Stout
- Louis A. Moegenburg, 1967, Professor, Ed.D., Texas A & M University
- Courtney W. Nystuen, 1967, Assistant Professor, B. Arch., University of Minnesota
- Scott Simenson, 1983, Lecturer, M.S., University of Wisconsin-Stout
- Leonard F. Sterry, 1978, Associate Professor, Ph.D., University of Wisconsin-Madison
- James Tenorio, 1975, Instructor, M.S., Rochester Institute of Technology
- Charles L. Thomas, 1966, Professor, Ed.D., Colorado State College
- Hans Timper, 1967, Associate Professor, Ed.D., Utah State University
- Thomas J. Vanderloop, 1981, Instructor, Ed.S., University of Wisconsin-Stout
- John G. Vranak, 1979, Lecturer, M.S., University of Wisconsin-Stout

Industrial Management

- Jerry W. Coomer, 1971, Professor and Department Chair, Ph.D., Purdue University
- Mehar Arora, 1965, Professor and Program Director, M.S. Degree in Management Technology, Ph.D., University of Minnesota

- Wallace C. Carlson, Jr. 1981, Instructor, M.S., University of Wisconsin-Stout
Steven H. Forster, 1978, Lecturer, M.S., University of Wisconsin-Stout
Raymond Hansen, 1981, Professor, Ph.D., University of Wisconsin-Madison
Raymond Keil, 1968, Professor, Ph.D., Michigan State University
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Business

- Bruce E. Siebold, 1974, Associate Professor and Department Chair, Ed.D., University of Minnesota
Robert P. Behling, 1969, Associate Professor, M.S., University of Illinois
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Elaine E. Fitzgerald, 1977, Assistant Professor, L.L.B., University of Wisconsin-Madison
Edger Frerichs, 1974, Lecturer, B.S., University of Wisconsin-Stout
Jack Ganzemiller, 1962, Associate Professor and Program Director, B.S. Degree in General Business Administration, M.S., Purdue University
Stanley A. Johnson, 1968, Associate Professor, M.B.A., Wisconsin State College at Eau Claire
William Knutson, 1981, Lecturer, M.S., University of Alaska
Theodore Lloyd, 1983, Lecturer, B.S., University of Wisconsin-Stout
Joseph A. Maglio, 1981, Lecturer, M.S., University of Wisconsin-Stout
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Maureen R. Munger, 1975, Instructor, M.S., University of Wisconsin-Eau Claire
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Materials and Processes

Arthur E. Muller, 1965, Professor and Department Chair, Ed.D., Colorado State College

Robert A. Berkemer, 1977, Instructor, M.A., The Ohio State University

James Bjornerud, 1964, Professor, Ph.D., University of Minnesota

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Industrial and Marketing Education

Richard Gebhart, 1965, Professor and Department Chair, Ed.D., University of Missouri

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A. Gary Searle, 1976, Professor and Director, B.S. Degree in Marketing and Distributive Education, Ed.D., The University of Tennessee

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Center for Vocational, Technical and Adult Education

Harold Halfin, 1956, Professor and Program Director, M.S. Degree in Vocational Education; Ed.S. Degree in Industrial and Vocational Education and Co-Director, Center for Vocational, Technical and Adult Education, Ed.D., University of West Virginia

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School of Home Economics

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Apparel, Textiles and Design

Carol H. Siewert, 1966, Associate Professor and Department Administrator, Ph.D., University of Wisconsin-Madison

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Susan C. Davis, 1981, Lecturer, B.A., University of Minnesota

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Food and Nutrition

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Habitational Resources

- Leland L. Nicholls, 1977, Professor and Department Administrator, Ph.D.,
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- Reed Andrae, 1982, Instructor, M.S., Northern Illinois University
- Phyllis Borchardt, 1982, Lecturer
- Gary P. Buckley, 1981, Lecturer, M.S., University of Wisconsin-Stout
- James Buergermeister, 1978, Instructor and Program Director, B.S. Degree
in Hotel and Restaurant Management, M.S., University of Wisconsin-
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- James F. Burke, 1982, Assistant Professor and Program Director, M.S. De-
gree in Hospitality and Tourism, M.S., Utah State University
- Stuart R. Fullarton, 1978, Assistant Professor, M. Arch., Iowa State Uni-
versity of Science and Technology
- Jafar Jafari, 1973, Associate Professor, M.S., Cornell University
- Douglas Kennedy, 1981, Lecturer, J.D., William Mitchell College of Law
- Philip H. McGuirk, 1979, Instructor, M.S., University of Wisconsin-Stout
- Charles J. Metelka, 1974, Professor, Ph.D., Northwestern University
- E. Gail Misfeldt, 1969, Assistant Professor, M.S., University of Tennessee
- Judy R. Oppert, 1981, Assistant Professor, Ed.D., University of Illinois
- Thomas P. Phillips, 1970, Program Director, B.S. Degree in Dietetics; Food
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- Craig W. Schowalter, 1983, Lecturer, B.S., University of Minnesota
- Teresa M. Schulz, 1979, Lecturer, B.S., University of Wisconsin-Stout
- Steven C. VandeBerg, 1972, Lecturer, M.S., University of Wisconsin-Stout
- William R. Way, 1976, Instructor, M.S., University of Wisconsin-Stout
- Kenneth S. Weldon, 1983, Lecturer, M.A., University of Wisconsin-River
Falls
- James A. Wendland, 1980, Lecturer, J.D., Marquette University

Human Development, Family Living and Community Educational Services

- Karen Zimmerman, 1973, Professor and Department Administrator, Ph.D.,
Iowa State University
- Julie Backus, 1973, Lecurer, M.S., University of Wisconsin-Stout
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- Judith A. Gifford, 1983, Lecturer, B.S., University of Wisconsin-Stout
- Sandra J. Gill, 1969, Assistant Professor, Ed.D., Washington State
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- Bette A. Hanson, 1975, Professor, Ed.D., University of Illinois at Urbana-
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- Judith Herr, 1969, Associate Professor and Program Director, M.S. Degree
in Home Economics Education, Ed.D., University of Minnesota
- Marybelle R. Hickner, 1965, Professor, Ph.D., University of Minnesota
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- James R. Huber, 1982, Lecturer, M.S., Purdue University
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- Judith A. Jax, 1966, Associate Professor, Ph.D., University of Minnesota
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William Staniszewski, 1980, Assistant Professor, M.S., Virginia Polytechnic Institute and State University
John M. Williams, 1976, Associate Professor, Ph.D., The Pennsylvania State University

School of Liberal Studies

- Gerane T. Dougherty, 1980, Professor and Dean, Ph.D., Universite' Laval
Carol A. Dobrunz, 1965, Professor and Assistant Dean, Ph.D., University of Oregon

Art

- Gene Bloedorn, 1971, Associate Professor and Department Chair, M.F.A., University of Wisconsin-Madison
Todd A. Boppel, 1963, Professor, M.F.A., University of Southern California
Douglas A. Cumming, 1967, Associate Professor, M.F.A., Indiana University
Paul E. DeLong, 1981, Lecturer, M.F.A., University of Wisconsin-Madison
Orazio Fumagalli, 1964, Professor, Ph.D., State University of Iowa
David A. Gamache, 1967, Assistant Professor, M.F.A., Tulane University
Humphrey T. Gilbert, 1970, Assistant Professor, M.F.A., University of Wisconsin-Madison
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Sherman D. Iverson, 1967, Assistant Professor, M.F.A., Michigan State University
Magdalena Laszkiewicz, 1983, Lecturer, Diploma, Ontario College of Art
Dion R. Manriquez, 1967, Assistant Professor, M.F.A., The University of Iowa
James A. McCormick, 1975, Associate Professor, M.F.A., Cranbrook Academy of Art
Harold C. Newton, 1973, Lecturer
John A. Perri, 1966, Associate Professor, M.F.A., Alfred University

- Rob A. Price, 1970, Assistant Professor, M.F.A., Ohio University
William Schulman, 1966, Associate Professor, M.S. University of Wisconsin-Milwaukee
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Ronald H. Verdon, 1976, Assistant Professor and Program Director, B.S. Degree in Art and B.S. Degree in Art Education, M.F.A., Syracuse University
Robb Wilson, 1960, Associate Professor, M.F.A., The Ohio State University
Charles E. Wimmer, 1966, Associate Professor, M.F.A., University of Minnesota
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Biology

- George Nelson, 1966, Professor and Department Chair, M.S., Colorado State University
Oscar Carlson, 1968, Professor, Ph.D., Iowa State University
Donald A. Dickmann, 1961, Professor, Ph.D., South Dakota State University
Phillip S. Gilliland, 1980, Lecturer, M.S., University of Wisconsin-Eau Claire
Russell F. James, 1968, Assistant Professor, Ph.D., University of Nebraska
Edward M. Lowry, 1959, Professor, Ph.D., University of Missouri
Luther A. Mahan, 1966, Professor, D.Ed., The Pennsylvania State University
Gene A. Olson, 1965, Professor, Ph.D., South Dakota State University
Douglas A. Wikum, 1966, Professor, Ph.D., University of North Dakota
Richard Wilson, 1966, Associate Professor, Ph.D., Utah State University

Chemistry

- William J. Mueller, 1969, Professor and Department Chair, Ph.D., University of Idaho
Robert G. Doerr, 1982, Lecturer, Ph.D., The Pennsylvania State University
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Martin G. Ondrus, 1971, Professor, Ph.D., The University of Iowa
Mary Orfield, 1976, Lecturer, M.S., University of Wisconsin-Stout
Nelva G. Runnalls, 1966, Professor and Dean for Curriculum, Research and Graduate Studies, Ph.D., University of Missouri
William D. Wagner, 1980, Lecturer, Ph.D., Montana State University
Gerald Zimmerman, 1973, Professor, Ph.D., Iowa State University

English

- Robert T. Moran, 1971, Associate Professor and Department Chair, M.A., University of Wisconsin-Madison
Raoul Barlow, 1969, Associate Professor, M.A., Marquette University
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- Paul R. Edmondson, 1969, Assistant Professor, M.A., New Mexico Highlands University
- Esther K. Faris, 1979, Lecturer, M.A., Colorado State University
- Carole Flint, 1976, Instructor, M.A., University of Wisconsin-Eau Claire
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- Richard M. Gardner, Jr., 1970, Assistant Professor, M.A., University of Iowa
- Sylvia A. Gengenbach, 1981, Lecturer, M.A., University of Wisconsin-Eau Claire
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- Claudia Kinville, 1981, Lecturer, M.A., University of Wisconsin-Eau Claire
- Geraldine Laine, 1968, Instructor, M.A., University of Detroit
- Warren P. Lang, 1969, Associate Professor, Ph.D., Indiana University
- Marvin G. Larson, 1968, Instructor, M.A., University of Wisconsin-Madison
- Michael M. Levy, 1980, Lecturer, Ph.D., University of Minnesota
- David McCordick, 1969, Professor, Ph.D., University of Wisconsin-Madison
- Patricia McManamy, 1970, Instructor, M.S., University of Wisconsin-Madison
- John Medelman, 1969, Assistant Professor, B.A., B.S., University of Minnesota
- Robert C. Meier, 1968, Assistant Professor, A.B., Brown University
- William F. O'Neill, 1980, Lecturer, M.A., University of Minnesota
- Janet Polansky, 1973, Associate Professor, Ph.D., Tulane University
- Helen Quinn, 1978, Lecturer, M.A., University of Wisconsin-River Falls
- Mary Jo Rathke, 1959, Associate Professor, M.A., University of Wisconsin-Madison
- Melanie Richards, 1980, Lecturer, M.F.A., Goddard
- Daniel G. Riordan, 1970, Professor, Ph.D., The University of North Carolina
- Robert J. Schuler, 1978, Instructor, M.A., University of California at Berkeley
- Morrell R. Solem, 1972, Assistant Professor, M.S., Rensselaer Polytechnic Institute
- Erik Thurin, 1968, Professor, Ph.D., University of Minnesota
- Susan M. Thurin, 1968, Associate Professor, Ph.D., University of Wisconsin-Milwaukee
- Virginia L. Wolf, 1977, Associate Professor, Ph.D., The University of Kansas

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